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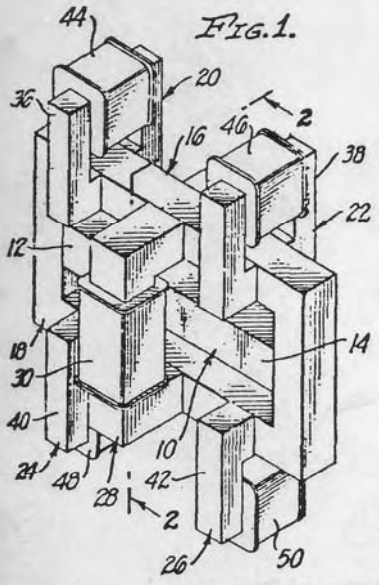
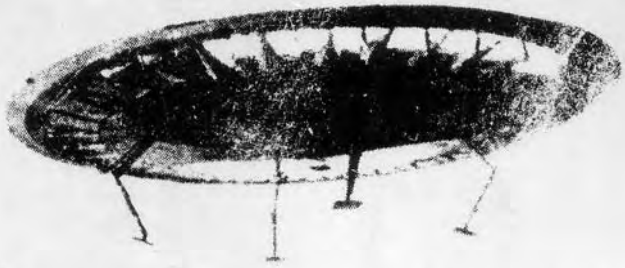
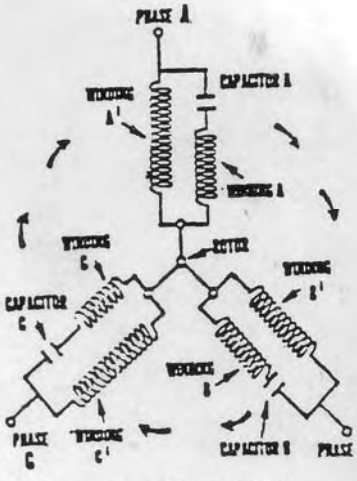
LANZAROTE Caliente.COM





Experimental set-up of the British inventor John Searl



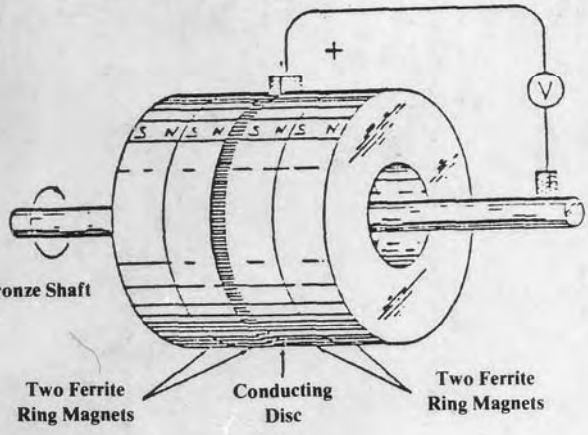
WANLASS MOTOR

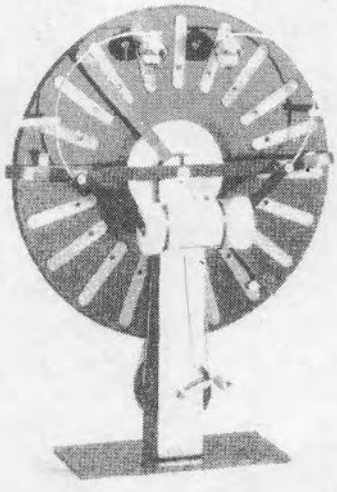
THE MANUAL OF FREE ENERGY DEVICES AND SYSTEMS

Volume II

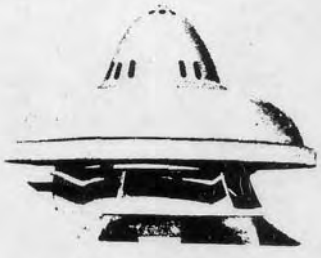
by **D.A. KELLY**

FIG. 22-B
THE "N" MACHINE

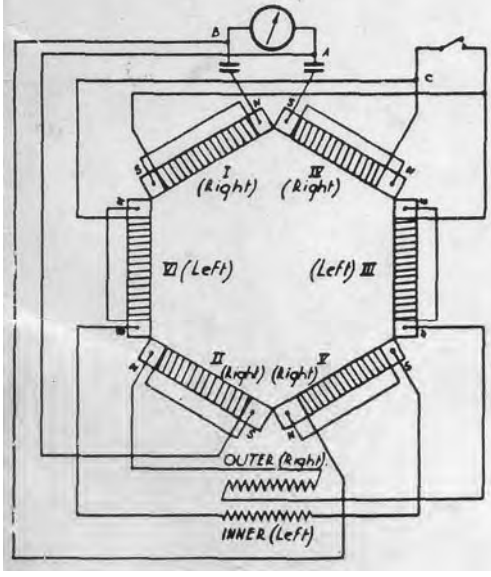


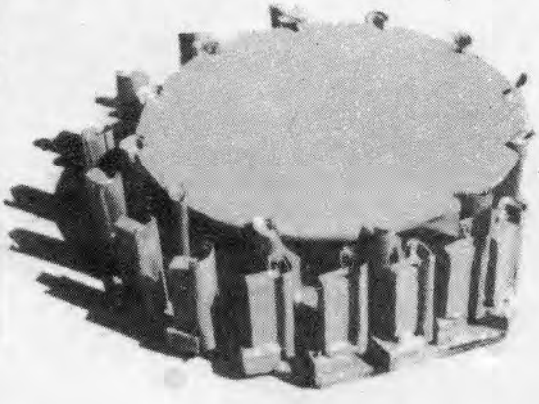


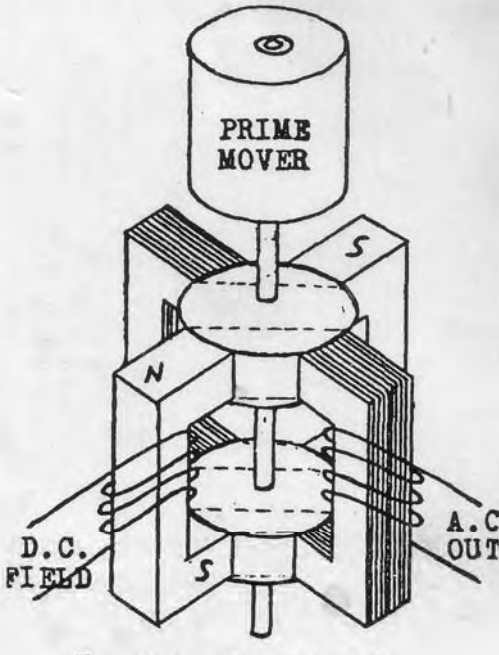
M-L CONVERTER



Schauberger's models of 'flying saucers'.







N Note solid core in D.C.
f field coils.

Paul Brown's Project Work

THE MANUAL OF FREE ENERGY DEVICES AND SYSTEMS

THIS MANUAL FULLY DESCRIBES THE VARIOUS PIONEERING PROTOTYPE "FREE ENERGY" POWER PROJECTS BEING DEVELOPED AND EVOLVED IN THIS MAJOR NEW AREA OF APPLIED PHYSICS.

THE MANUAL IS DIVIDED INTO FOURTEEN TYPES OF SPECIFIC PROJECTS IN BOTH ROTATING AND SOLID STATE UNITS, AND HYBRIDS, WITH SOME TYPES SUBDIVIDED INTO OTHER SUBCLASSES, AS NOTED IN THE ENCLOSED TABLE OF CONTENT.

CONTRARY TO THE OUTMODED OPINION OF MANY WELL ESTABLISHED PHYSICISTS, THESE VARIOUS UNITS AND SYSTEMS ARE HERE AND NOW EVENTS WHICH WILL CONTINUE TO BE IMPROVED UPON UNTIL A "NEW WAVE" OF APPLIED ENERGY PHYSICS IS IN PLACE, AND THE OLD BELIEFS AND VIEWS FALL BY THE WAYSIDE!

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THE SECRETS OF FREE ENERGY

The subject of free energy and perpetual motion has received much undue criticism and misrepresentation over the past years. If we consider the entire picture, all motion is perpetual! Motion and energy may disperse or transform, but will always remain in a perpetually energized state within the complete system.

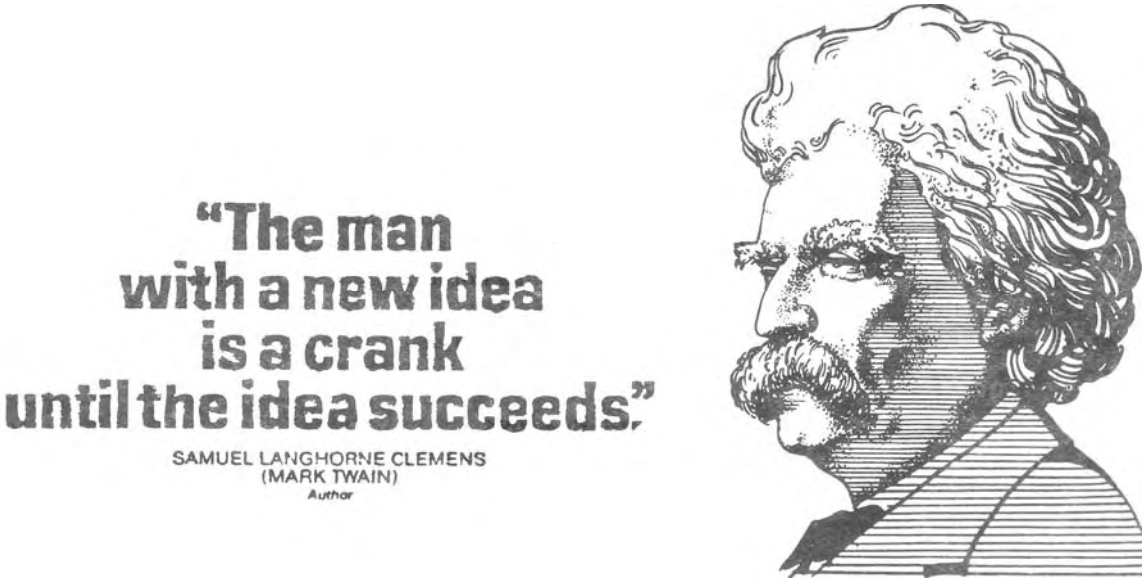
Consider the "free energy" hydro-electric plants. Water from a lake powers generators and flows on down the river. The lake though is constantly replenished by springs, run-off, etc. Essentially, the sun is responsible for keeping this system "perpetual." The sun may burn out but the total energy-mass remains constant within the cycling universal system.

Vacuum is charge flux without mass, containing a high electrical potential of approximately 200,000,000 volts relative to pure zero charge. Within an ordinary electrical circuit, the ground has a valued zero charge with respect to something else with the same absolute potential, but actually has a non-zero absolute potential relative to the vacuum. Present theory explains that we can create a difference in potential "within" the parts of a system only by displaying electro charge mass. By pumping the electrical mass between potentials we can only get back the work that we put into the system. Orthodox science has confused charge and charged mass, ignoring scalar electrostatic waves. (Note that "ignor-ance" is the operative word here).

Recalling that the vacuum's charge flux is massless, any charge flow would be scalar and normally incapable of doing any work (change of momentum - requires mass movement, $-F = ma + v(dm/dt)$. By electromagnetically oscillating the true ground vacuum potential, we create an added resonating electrical potential difference between that part of the circuit and the normal rate ground voltage of the rest of the system. Maintaining the correct harmonic vacuum oscillation will produce the excess potential needed during the negative half-cycle to sustain the work load.

As can be seen, we have not produced energy from anywhere, but merely diverted and juggled the inate high potential of the energized vacuum!

By AR&D, P.O. B. 323, C.D.A., ID, 83814
(1984)



THE MANUAL OF FREE-ENERGY DEVICES and SYSTEMS

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Bob Nelson
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Prof. Shinichi Seike
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William Sowder
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Andy Slivinski
Bob Teal
Adam Trombly
Tom Valone
Bill VanDoren
Dan Wallace
Rev. Curt Wallace
Willis Winter
C.B. Wynniatt
William Whamond
John Bedini

This present Manual of Free-Energy Devices and Systems discloses the project work of approximately fifty independent researchers into "free-energy" R & D, and spin-off anti-gravity research.

The various researchers cover the spectrum of laymen "explorers" and professionally-trained scientists, with the work of both researcher types pointing to a common end, that of validated "over-unity output" from their various prototype projects.

There can no longer be any serious doubts about the practicality of the various "free-energy" units and systems based on the full-weight of the hardware evidence from at least fifteen different types of projects, as presented in this Manual.

Although all of this presented prototype/project work has been aimed at producing free-energy machines, it has become increasingly apparent that in some cases levitation (anti-gravity) results have been achieved as a spin-off from this basic free-energy development effort.

By
D.A. Kelly
Clearwater, FL, 33516
Pratt Institute, -eM/53
Brooklyn, N.Y.
Holder: 45 U.S. Patents
35 years of Engineering Experience

MANUAL OF FREE ENERGY DEVICES AND SYSTEMS

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- T.J.J. See
- Dr. William J. Hooper
- Paul Brown

Despite ourselves we are rapidly changing into a world economy and it is naive to think that a group of educators, a group of government employees, or a group of large energy company research directors can stop the evolution of free energy devices and systems. The reason being that technology and financing flow freely across national boundaries. A Saudi Arabian prince could care less about whether or not a particular conversion process has been approved by the National Academy of Sciences. His primary concern is more likely to be whether or not it is a promising investment, with a likelihood of growth.

We need to keep our eye on the main goal of bringing about the utilization of free energy and be cautious about our claims and let those that are resistant to change continue doing their own thing. It is far more prudent to continue these developments and find ways around the "system" than to practice tilting at windmills.

I have attempted to contact all active researchers in the free energy conversion field but am sure that I have missed some. To those that I have missed, my apologies. If you will send me a short description of your device or system, with test results, I shall try to include you in the next edition of the Manual. I expect to see an exponential rate of growth in the number of projects with time.

God bless all of us in our efforts and may we enjoy and have a fun-time together in this exciting new free-energy conversion era.

D.A. Kelly

Recommended Reading in this Field:

1) "Ether-Technology: A rational approach to gravity-control.

By Rho Sigma

This book has become one of the leading informational sources in the free energy field because it covers much ground in a clear and concise manner. Send inquiry, with a S.A.S.E. to:
Cadake Industries
P.O. Box 1866, Clayton, GA 30525

2) "Earth Energy: the entrancing force with a thousand names"

By John Bigelow

Another folio-type, informative work which describes many free energy units, with illustrations so that the phen involved are readily understood.

Send inquiry, with S.A.S.E. to:
Health Research, P.O. Box 70
Mokelumne Hill, California, 95245

3) "The Energy Machine of Joseph Newman"

By Joseph W. Newman

This work covers the specifics of this multi-faceted motor/generator technology, plus many other new theories.
S.A.S.E. to:
Joseph W. Newman
Route 1, Box 52,
Lucedale, Mississippi, 39452

4) "The Sea of Energy, in which the Earth Floats"

By John E. Moray

Fully describes the pioneering work of Dr. T. Henry Moray.
Send inquiry and S.A.S.E. to:
Cosray Research Institute
2505 S. 4th East
Salt Lake City, Utah, 84115

or Cadake Industries
P.O. Box 1866, Clayton, GA 30525

5) "Awesome Force 1982 and Awesome Life Force 1984"

By Joseph H. Cater

Send inquiry and S.A.S.E. to:
Cadake Industries
P.O. Box 1866
Clayton, Georgia, 30525

I have chosen to leave an explanation of the mystery of "free energy" to my good friend, Rolf Schaffranke, as he has spent a lifetime in a study of this field and has devoted all of his time to it during the past twenty years. His contribution to this manual follows in the Foreward section. My main purpose in the compilation of the following information on free energy devices and systems is to make this little known and potentially world-changing field of technology available to a large spectrum of people and to the youth of the world in particular. As mankind has evolved over the ages we have gone through phases of development and many have called our present stage the information age. This is a reflection of the rapid processing and transfer of information through the use of computers and satellites. I submit that our next age will most likely be the Free Energy Age and that we are in the birth pangs of that age right now.

I decided to present this information in the form of a manual starting with the first individual to pioneer in the area, Nikola Tesla, and move up to present day research by some individuals who prefer to remain anonymous. It was interesting that in the assembly of this manual, that all of the contributions except three have come from independent inventors working mostly alone in their basements and garages. Only two countries, Denmark and Sweden, are using public funds for unclassified research in this field, as far as I have been able to determine. There are hints of extensive research in Russia, but information on their work is difficult to obtain and generally unavailable.

This lack of public support is seen as cause for alarm by many researchers in the free energy field but this is more likely just a normal way our free enterprise system works. Studies have shown that eighty percent of the major innovations in this country have come from independent inventors in just this fashion. We who study this field grow impatient with its slow progress and lack of recognition. This, of course, is nothing new. The story of Galileo, and the trouble he got into by finding that the earth revolved around the sun is well known to every school child. Little is known that Thomas Jefferson, on reading that meteorites fell from the sky, said that "I would rather believe that two Yankee professors lied, than that stones fell from the sky". His view was later endorsed by the French Academy of Science.

There we many disturbing and derogatory references to "the establishment" by people interested in the free energy field and I fed that it is important to address this up front, in the preface, so that those young people who may contemplate working in this field can appreciate their potential difficulties. My understanding of "the establishment" is that it consists of the theoretical physics community members who refuse to recognize that this source of energy exists, science teachers and university professors who ignore it in their presentations, the large multi-national energy companies that will not finance free energy research and governmental research funding people who also ignore the field. When a scientist is refuted he is presented with a forum to make his case, but when he is ignored he is rendered impotent and his work goes into limbo.

Some inventors seem almost paranoid in their fears and I think we need to include a few of the actual cases to insure that our young students be fully aware of some of the problems which they may encounter should they choose to go this route. Nikola Tesla, the inventor of the present alternating current system of electricity which is used throughout the world, was awarded two U.S. patents for radiant energy converters in 1891. He sold his alternating current inventions to Westinghouse and set up his own research and development company to develop some of his other inventions. From that period on he was generally ignored and after he went through his Westinghouse money he existed in reduced and modest circumstances until his death. Even today's physics texts make little mention of his work, and books on his life's work are now quite hard to find on library shelves.

Dr. T. Henry Moray was active in the radiant energy field in the 1914 to 1941 time frame. During this period his equipment was destroyed by a double agent, an employee of our own Rural Electrification Administration and an agent for a communist government. Afterwards he was attacked three times in his laboratory, he was shot once and he and his family fired upon from ambush.

In more recent times, the late 1960's and 1970's, Mr. John R. R. Searl in England had his home invaded by government inspectors and his free energy generator (Levity disc unit) consficated. he was then prosecuted by the Southern Electricity Board on charges of stealing electricity and all the wiring was torn out of his house.

In present times Mr. Joseph Newman has been denied a U. S. Patent, even though he presented affidavits from numerous expert witnesses and had several demonstrations for energy gain from his motor/generator unit to the court in Washington.

First, it should be understood by our young readers as to why the free energy conversion field is so important and why inventors persist in spite of their difficulties. The main reason is that the energy source, the raw material,— unlike— natural gas, oil, coal or uranium, is free and available the world over. Unlike—the sun, it is here both night and day in quantities beyond imagination. Those of us old enough to remember the long gasoline lines in 1974, and the actions of

the Organization of Petroleum Exporting Countries (O.P.E.C.) to rapidly escalate the price of oil know that it led to a twenty percent inflation rate in this country and severe hardships to many third world countries which exist to this day. There is a natural correlation between the price of energy and economic growth. Present forecasts predict that there will be serious shortages of electrical power in the United States in the mid-1990's. The cost of new conventional power plants have become so high and the lead times so long that regulatory agencies have just about stopped all new power plant construction.

The beautiful point about free energy is that because it is freely available to everyone, anyone can set up their own research project with a minimum amount of money, a lot of patience and a lot to time. It is not necessay to have a multibillion dollar accelerator, a national laboratory or even a large industrial laboratory. I would like to see this Manual stimulate the minds of young people around the world and a continuing exponential growth in the number of free energy conversion projects. It is going to come because it is definitely an idea whose time has come!

We human beings are naturally resistant to and afraid of change. It took our secondary education system an entire generation to make the change from the teaching of phonics and go back to it again.

FOREWARD

WHAT IS "FREE ENERGY"?

The term "free energy" is considered to be the net E.M.F. yield, or energy differential between the input to an electromagnetic unit or system and the output E.M.F. produced by it. Some electromagnetic machines produce an output only slightly above unity, while others have produced outputs of about three-to-one. Lately the output ratios have been rising, with a recent unit providing about five-to-one. The prospects are quite good for a continuing and steady increase in these input/output ratios.

The concept of electromagnetic "free energy" should not be considered to be the same as natural free energy sources such as solar, wind, hyrdo or geothermal energies, because these new E/M machines usually require an input energy in order to obtain an increased energy output, which the natural sources do not require.

Several years ago there were only a few "free energy" devices which appeared to offer hopeful opportunities for development, but today there are at least five significant individual projects which are operating at varying degrees of over-unity output. While these various machines or devices in both rotating and solid state classes are based on classic Faraday/Maxwell principles, they achieve their over-unity output by the enhanced electromagnetic activity within the unit or system.

It must be noted that some senior physicists, in an attempt to discredit some free energy researcher's projects are proposing the discarding of Maxwell's mathematics with their new theories and operating machines. After a thorough review of each researchers work it was found that rather than the discarding of Maxwell's equation principles, these various machines actually supplement or enhance the electromagnetic functioning in each case, based on Maxwell's Second equation. Since this attempted discrediting has occurred in two distinct cases it appears to be a planned and contrived approach to putting down "free energy" efforts.

One of the major reasons that establishment physicists resist the concept of "free energy" is that the tachyon field concept goes against the Special Theory of Relativity which limits particle speeds to the speed of light. The tachyon concept (fast particles) has been proven valid based on the the findings of Professor Gerald Feinberg at Columbia Univertisty in 1967. Several of these new over-unity output machines have established the reality of the tachyon field, as witnessed by the individual researchers.

In addition to Professor Feinberg's findings on the fast particle concept, a U.S. Naval research team which was running various experiments during the 1950's recorded a spot indicator moving across a CRT scope screen at a speed of 202,000 miles per second, which could not be explained. These tests results were noted as the interaction of particles moving at about 16,000 miles per second. Aware of the constant of 186,000 speed of light standard, these experimenters rechecked their test setup, but again recorded the same results of the 202,000 m.p.s. particle speed. Since none could offer an explanation of these findings, the test results just went into limbo and were noted as an unexplained phenomena.

The result of the "Saganac Experiment" in 1913, also has never been satisfactorily explained by contemporary physicists. In this experiment two simultaneous light sources were sent in opposite directions around a closed path, and photographic plates recorded the impingement of the light sources. If the basic beliefs of relativity were correct, both light signals would have traveled these equal closed, circular paths (equal to the distance around the earth's surface) in identical times. The results disclosed that they did not!! We must conclude that a modification to Special Relativity is needed!

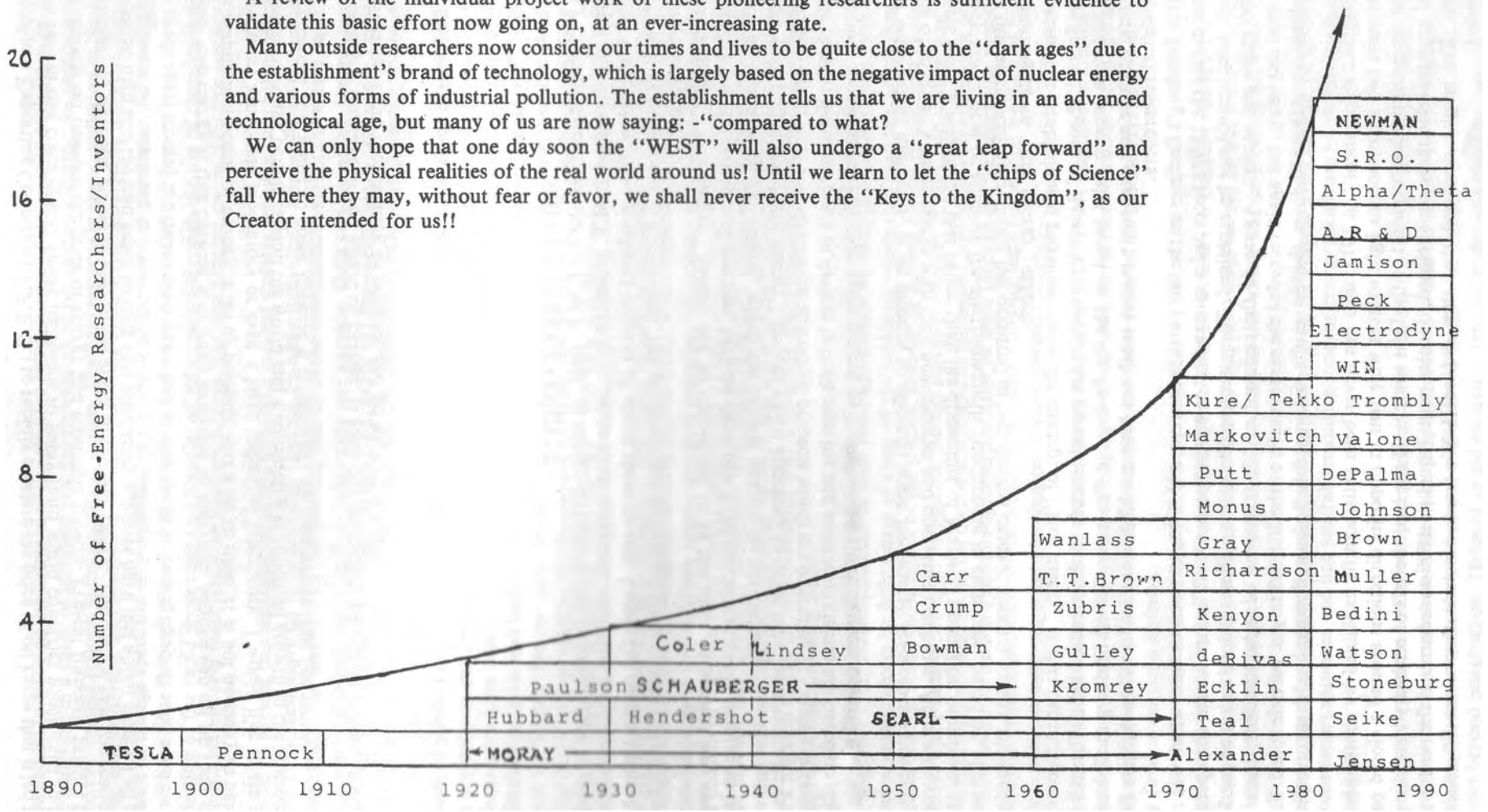
THE GROWTH IN THE FREE ENERGY RESEARCH FIELD-Since the turn of the Century

We can see the dramatic, exponential growth in the free-energy field since the early, pioneering work of NICOLA TESLA at the beginning of the twentieth century.

A review of the individual project work of these pioneering researchers is sufficient evidence to validate this basic effort now going on, at an ever-increasing rate.

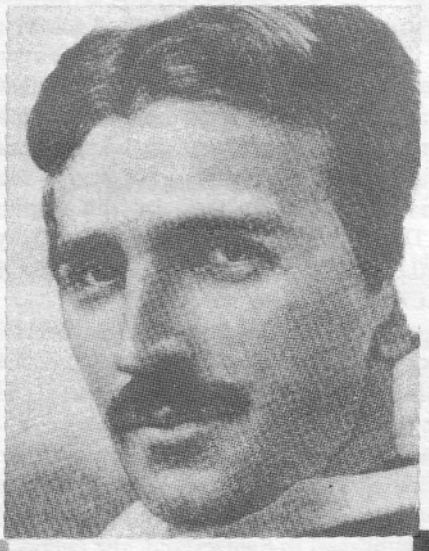
Many outside researchers now consider our times and lives to be quite close to the "dark ages" due to the establishment's brand of technology, which is largely based on the negative impact of nuclear energy and various forms of industrial pollution. The establishment tells us that we are living in an advanced technological age, but many of us are now saying: -"compared to what?

We can only hope that one day soon the "WEST" will also undergo a "great leap forward" and perceive the physical realities of the real world around us! Until we learn to let the "chips of Science" fall where they may, without fear or favor, we shall never receive the "Keys to the Kingdom", as our Creator intended for us!!



Today, physics is taught on the basis of very extensive mathematical support, and yet TESLA was able to "Visualize" a fully working A.C. motor, which he immediately accepted as "an act of faith!"

Today's physicists demand proof of principle with a blackboard filled with endless equations, and yet according to their math, the bumblebee cannot possibly fly! Mathematics is a useful support tool, but not the "main event" in applied physics!



All of these truly great applied physicists have learned to listen to the pulse-beat of nature, - rather than the squeaking of chalk on a blackboard.

These have been the hands-on/doers who have had their work shoved aside by a "blind' physics establishment which is hell-bent on following their own values and economic ends in physics.

We must now ask ourselves how many gifted, true-believers are now bypassed by an unknowing physics establishment. These are the "gifted ones" who function at the intuititive, gut-feeling level, in addition to having a natural analytical ability. How much further along in our collective understanding of our real universe might we have been if----the work of these gifted ones had been accepted?

There is a corporate slogan going around today:-"Together we can find the answers." This slogan is both trite and not the right one to ask! The real question to ask today is: Will we be prepared to implement the answers when we find them?

This question is directly applicable to the "free-energy" field.

THE MYSTERY OF "FREE ENERGY":
WHERE DOES IT COME FROM?

Submitted by:Rolf Schaffranke

Since major breakthroughs in the physics of non-conventional energy generation and energy conversion have already been made in several countries, it seems appropriate to present the main points of the ongoing changes in research in a convenient Question and Answer format which allows a selective overview of the highlights of newly established facts and observations.

Please remember that big name, long established companies have long abdicated the main part of their research initiative to government planners and we no longer can look to them for leadership.

Question: "Where does the energy potential for the operation of the new "converters" actually come from?"

Answer: The energy is extracted from the G-Field, formerly known also as the Ether-Field, indentifiable today as a real acceptable, subnuclear and sub-quantic medium. In the past, this medium was given various names, such as PRANA, by the Indians; ORGONE, by Dr. Wilhelm Reich; ODIC FORCE, by Baron Von Reichenbach; ANIMAL MAGNETISM, by Franz A. Messmer; MUMIA, by Paracelsus; BIO-COSMIC ENERGY, by Dr. Brunler; ELOPTIC ENERGY, by Dr. Hieronymus; X-FORCE, by Dr. Eeeman (U.K.)

Today, it is commonly referred to by one of the following definition NEUTRINO SEA, by Prof. P.A.M. Dirac; RADIANT ENERGY, by Dr. T.H. Moray, FERMI SEA; PRIMARY ENERGY; TACHYON FIELD, Prof. G. Feinberg; ZERO POINT ENERGY; GRAVITY FIELD ENERGY; or G-FIELD; SPACE ENERGY, all merely euphemisms...what Aristotle once chose to call "ETHER".

Question: "What is the magnitude of this field energy potential?"

Answer: The energy content of the G-Field was calculated as (1) 10^{33} cm^3 by Sir Oliver Lodge, England, 2) $8.8x10^8$ volts/cm by Prof. S. Seike Japan, 3) 250 billion Joule/ml by Rene L. Vallee, France.

To repeat a popular conversion figure published in Switzerland, the energy content of One Liter SPACE is about equal to the energy of 5000 Liters of gasoline.

A remarkable confirmation of the claims of Nicola TESLA who, more than 100 years ago, expressed his belief that "before many generations will have passed," mankind will be able to extract unlimited power at any place."

Question: "Which scientists of repute (Nobel Prize winners) are, or were in favor of the "ETHER" (G-FIELD)?"

Answer: Some of the world renown scientists who affirmed their belief in the existance of a universal ETHER or Forcefield are:

JAMES CLERK-MAXWELL: "A material substance of a more subtle kind than visible bodies, supposed to exist in those parts of space which are apparently empty." Prof. Paul DIRAC, N.L. 1951, deBROGLIE, N.L. 1959, MICHELSON: "Even if relativity is here to stay we don't have to reject the "ETHER." Sir OLIVER LODGE: "The Ether is a physical thing..we can only get it electrically" STARK, N.L.; ARRHENIUS, N.L.; A. H. COMPTON, N. L., P.E.A. LENARD, N.L.; H. UUKAWA, N.L.; F. SODDY, N.L.; Albert EINSTEIN: "There are weighty arguments to be adduced in favor of the ether hypothesis. To deny the ether is ultimately to assume that empty space has no physical qualities whatever. The fundamental facts of mechanics do not harmonize with this view... .According to the General Theory of Relativity, space is endowed with physical qualities; in this sense, therefore, there exists an ether. According to the General Theory of Relativity space without ether is unthinkable..."

The above quote by Dr. Albert Einstein was published in 1920, based on Einstein's speech at the University of Leiden, Holland, (May 5, 1920).

The publication was in German, and translated by Sir Oliver Lodge into English, quoted from his book, "Ether and Relativity" (1925). However practically all textbooks in physics omit this fact. Einstein himself has gone on record stating on his 70th birthday:

"Now you think that I am looking back at my life's work with calm satisfaction. But, on closer look, it is quite different. There is not a single concept of which I am convinced that it will stand firm and I am not sure if I was on the right track after all."

Question: "What about conservation of energy law pertaining to the operation of cosmic energy converters and motors?"

Answer: "...every emission or absorption of a virtual particle is already accepted to totally violate conservation of energy. That is, emission represents the sudden appearance of extra energy in the ordinary universe, and absorption represents the sudden disappearance of some energy from the ordinary universe. Every charged particle in the universe constantly does both processes. Even the neutron is continually breaking into different virtual, charged particles. So every piece of mass in the universe, ACCORDING TO ORDINARY PARTICLE PHYSICS—is already violating conservation of energy on the microlevel...

...a strong magnetic pole represents an additional stress in space-time, (the G-Field, R.S.) as does a strong static electric charge. Either of these situations warps and twists spacetime itself. This in the region of a magnetic pole or of a strong static charge, conservation of energy need not apply. Specifically, for large, massive atoms of some heavy elements, violation of ordinary "linear" magnetism—and hence of the linear conservation of energy law—has already been noted.

This is particularly interesting since, with a permanent magnet, one can apply spatiotemporal (G-Field) stress in a locality without any further input of energy. The entire business of using this to produce a free energy device depends simply on the cleverness of the inventor. It is also possible to time the applications of both effects—static electric stress and magnetic monoploar stress - with an ordinary electromagnetic rotary device to produce seemingly "Free" energy. And so the potential is there for free energy.To the question,"Can it in principle be done?", we must definitely answer, "Yes, if we believe our present physics." The second ques ion, "How difficult is it to do?", can be answered in several ways; possibly the best is: "If one is clever and gets back to absolute, simple fundamentals, it may be possible to do it cheaply and in a straightforward, practical manner."

Tom Bearden, "WHY FREE ENERGY IS POSSIBLE" in PEGASUS, VOL. @, Ed. 1, January 1984, ASGFE.

Question: "Operation of such a G-Field or Tachyon Field energy converter would be in violation of the scientific fact that a perpetuum mobile is clearly impossible. Any comments?"

Answer: This applied only to so-called "closed systems" in our technology, like turbines, combustion engines, steam engines, etc.

Nature shows that the movement of electrons around the atomic nuclear, planets around the suns, etc. are indeed all genuine "Perpetuum mobiles" since they represent "open systems," interacting with various fields of electrical, gravitational etc. nature.

Examples of Perpetuum Mobile Actions are, among others: A) the Bessler Wheel (1712 to 1717), B) The Foucalt Pendulum (France) both are powered by the rotation of the earth. "The earlier, original concept of perpetual motion refers merely to any device that does work in excess of its energy input. This does not exclude an unseen energy source (such as the G-Field!) as the input to a perpetual motion device. It is this that separates practical perpetual motion from the laws of thermodynamics!"

Quoted from: Earth Rotation as a Source of Free Energy" by Martin Ruderfer, published in PROCEEDINGS of the First International Symposium of Non-Conventional Energy Technology, October 23-24, 1981, University of Toronto, Canada.

Question: "Why are permanent magnets so important in connection with design of G-Field converters?"

Answer: Permanent magnets act as "cosmic energy pumps" or "gravitational diodes." The space energy or G-Field can be concentrated, focused, magnified and compacted by strong magnetic fields. The development of very strong magnets, so-called "Super-Magnets' (NIB's) made from exotic alloys, makes G-Field converters and generators possible.

QUOTE: "I think it is possible to utilize magnetism as an energy source. But we science idiots cannot do this; this has to come from the outside. " (Werner Heisenberg, Nobel Laureatus as quoted in the book: "Energie im Uberfluss" by Hilscher, 1981.

Question: "What are the prerequisites for successful R & D efforts leading to mass production and licensing of G-Field converters?"

Answer: 1) Identification and refinement of the best developed, most economical, most promising conceptual approach.

2) Close international contacts to assure a flow of up to date information about all new developments in this technology area in order to avoid dead-end approaches.

3) Follow the newly developed super-magnet technology in all countries, with special emphasis on samarium-cobalt and neodynium compounds (neodynium-iron-boron) and other new materials.

4) Application of vortex-technology within the known laws of fluid-dynamics and nuclear dynamics.

5) Sufficient long-term funding for success by attracting venture capital, by offering of tax write-offs plus an inflation-proof potential return. (As a tax write-off, it can be more attractive to an investor than giving to a favorite charity. Note: Over 100% in the U.S.A.)

6) In general, logical thinking and ethical handling of the project in question by all partners, will assure success.

(Note: In reference to Item 5 above): Since the IRS vrs SNOW case of 1974, it is held that a new limited partnership organized for the purpose of financing the development of a new process or product is entitled to deduct research, experimentation and development costs.

It is of course extremely difficult to put a price tag on the results of R & D in an area of revolutionary technology.

However, there is no doubt whatsoever about the feasability of the technology as such.

Dr. R. Schaffranke, h.c.

Quotations:

1)" There isn 't any energy crisis. It's simply a crisis of ignorance." R. Buckminster Fuller

2) "It is amazing that in the sub-micro world of the atom, quantum physics requires the perpetual motion of particles both as to spin and orbital motions. In the macro world, science is based on the law that a perpetual motion machine is absolutely impossible.

This is the state of today's science??? John W. Ecklin

3) Scientists aren't used to thinking how things would be/seem/feel Within A CAPACITOR; they Fail to Recognize "MAXWELL'S DISPLACEMENT CURRENT" when they are IMMERSED in it!! Instead, they call it GRAVITY!!

William Whamond-Canada

I. NICOLA TESLA (1856-1943) U.S.

There is no doubt that Nicola Tesla's monumental scientific work in the electrical energy field ranks him as one of the greatest applied scientists of all time!

His most outstanding contribution to the electrical engineering field was the polyphase A.C. induction motor, along with A.C. power distribution technology. He was instrumental in bringing about the wide scale acceptance of A.C, at sixty cycles per second, as the standard power source in the United States.

The construction of two A.C. generator stations at Niagara Falls in 1895, which produced eleven megawatts of electrical energy was a truly outstanding achievement at the time.

It is significant to note that Nicola Tesla began to fall into disfavor with the establishment of the time, when he proposed the development of the direct transmission of electricity based on his Colorado Springs experiments of 1899. He was slowly cut off from future funding and began to lose the support of his principal backer, J. P. Morgan during the early 1900's. Although George Westinghouse was an early Tesla supporter, with most of his motor/generator technology built by Westinghouse, he, too began to withdraw support from Tesla.

Of nearly similar importance to electrical technology was the development of the now famous Tesla Coil which produces very high voltages and the application of these to a variety of electrical products. Tesla coil designs have seen application in several "free energy" units such as the 1920 Hubbard Generator which was basically an amplifying transformer unit.

Dr. T. Henry Moray the inventor of the first successful radiant energy conversion system was said to have been greatly influenced by the pioneering electrical work of Nicola Tesla. Although Guglielmo Marconi has generally been given the credit for inventing the first wireless voice transmission (radio), much of his functional hardware was based on Tesla's early work with radio wave theory and several issued patents.

Nicola Tesla did not hold a large number of U.S. patents, the total number being about 112, but they were of significant importance in several areas of applied science. Although he was preeminent in advanced electrical engineering, he also made sizable contributions to mechanical technology with his unique disc turbine, some early aircraft designs, engine components and instrumentation.

It is not widely known that Nicola Tesla built and tested an electric automobile in the early 1930's. Although the exact technical details are now obscured by time, it was known that a large electric motor was powered by a special electrical unit containing a vacuum tube array, which appeared to be a radiant energy converter. These conclusions have been drawn by the presence on the tubes, and a six foot long antenna, plus a variable tuning means, but the operating details remain unexplained.

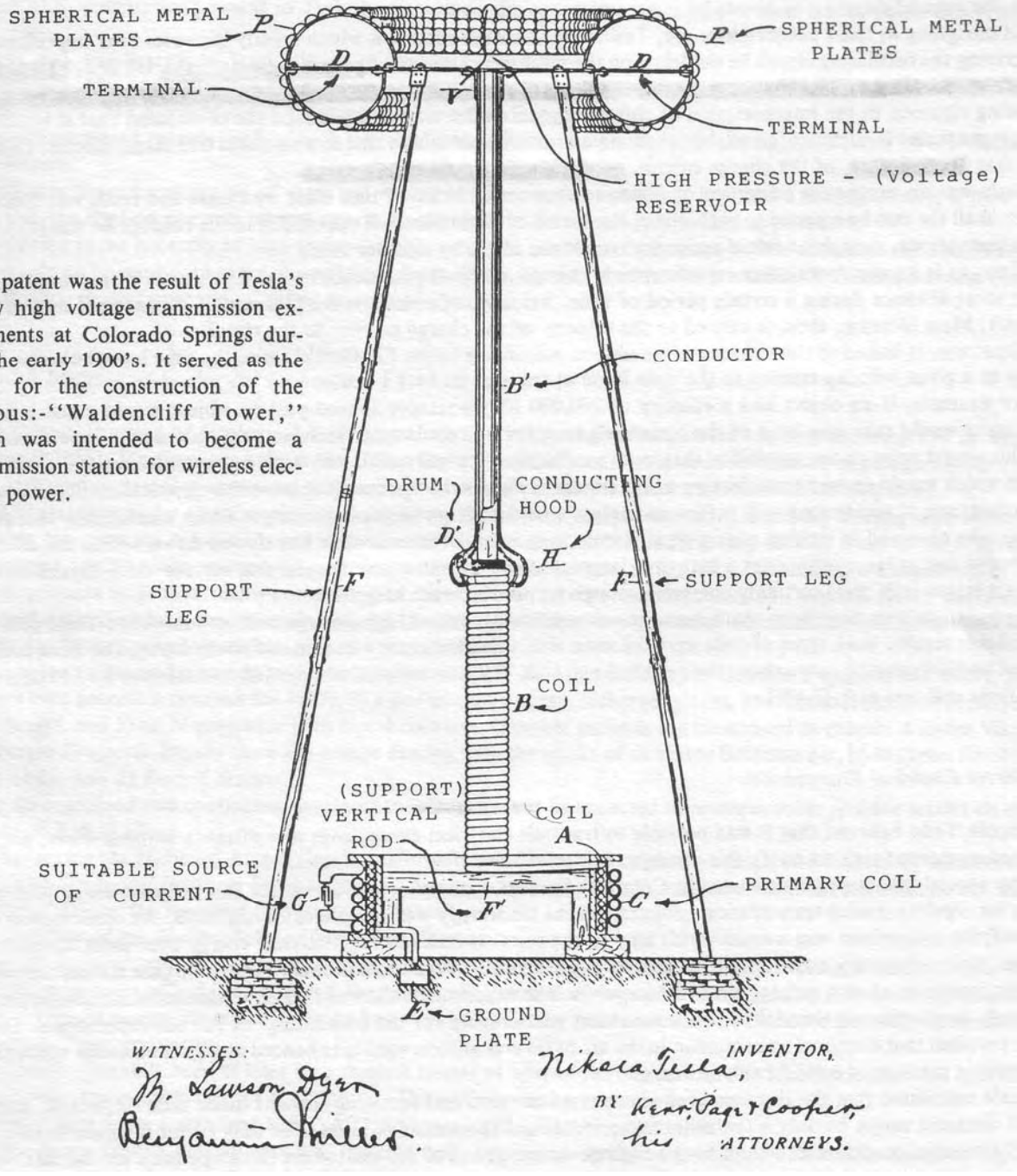
Tesla can be credited with being a pioneer in radiant energy conversion with his two U. S. patents in the field:-No. 685, 957, Apparatus for the Utilization of Radiant Energy, and No. 685, 958, Method of Utilizing Radiant Energy. Both patents were issued in November of 1901, and consisted of condensers with one plate charged by radiant energy and the other plate charged by independent means. A circuit is connected to the condenser terminals which were adapted to be operated by the discharge of the condensers. There is no record of any prototypes being built for these designs, but it is believed that they served as a basis for Dr. Moray's subsequent work in this experimental area.

It is quite clear that Nicola Tesla was convinced of the practicality of converting the energy in space to our needs, but his efforts in this direction were never realized.

N. TESLA

APPARATUS FOR TRANSMITTING ELECTRICAL ENERGY.
APPLICATION FILED JAN. 18, 1902. RENEWED MAY 4, 1907.

1,119,732. Patented Dec. 1, 1914.



This patent was the result of Tesla's many high voltage transmission experiments at Colorado Springs during the early 1900's. It served as the basis for the construction of the famous:-"Waldencliff Tower," which was intended to become a transmission station for wireless electrical power.

WITNESSES:
M. Lawson Dyer
Benjamin Miller.

INVENTOR,
Nikola Tesla,
BY Kerr, Page & Cooper,
his ATTORNEYS.

I. TESLA TYPE PROJECTS

a) Tesla Coils

The Tesla Coil is basically a high frequency resonant coil/transformer in which the voltage and current relationships between the primary and secondary windings are independent of the ratio of the turns. Time Dilation with Conduction Electrons in Tesla Coils/Oliver Nichelson.

In 1901 Nicola Tesla made a statement to the press that could provide a key to understanding the physics of his "free-energy" generator, The New York SUN of Jan. 30, 1901 carried an article in which Tesla claimed that the capacity and inductance in a resonant oscillating circuit are not constant and can change in value. He cited experiments in which he observed changes in these values according to the season of the year, phase of the moon, and even the time of day.

As intriguing as these observations are, Tesla made another comment which greatly increases their importance. In describing the oscillating circuit he models it on the mechanical system of a spring and a weight. He said, "The capacity of the electric circuit corresponds to the pliability of the spring and the inductance to the mass of the weight.

Being rigorous in the interpretation of this analogy a reader can hardly escape the conclusion that if inductance equals mass and inductance is variable, then mass must be a variable value in a resonant oscillatory circuit. This is to say that mass change, of the charge carrier, takes place in anelectrical system.

Tesla was an outspoken opponent of relativity theory and believed that mass was mass and force was force and never shall the two be equated to each other, but for all of his intellectual opposition to the concept he was faithful to his observations, though he felt it necessary to call the effect by another name.

Mass, as is known from other experimenters, changes under the influence of motion, that is by moving the mass over some distance during a certain period of time. Velocity, of course, is the measure of distance per unit of time, $v = d/t$. Mass increase, then, is related to the velocity of the charge carriers in the circuit.

Time, too, is linked to the volocity of an object. According to the FitzGerald ratio, the time lapsed observed on a body at a given velocity relative to the time lapse at rest (to) is: $t = t\ (1-v/c)$.

For example, if an object had a velocity of 260,000 Kilometers per second past an object would equal t/2. This means its would take one hour of the observer's time for half an hour to seem to pass on the moving object.

This would point to the possibility that in an oscillating electrical circuit very high energy processes could be taking place which would cause a time dilation of the observed effects. In a properly constructed electrical oscillator conduction electrons, if accelerated with sufficient energy, would undergo large mass changes which would allow charge carriers to be observed in motion over a significantly long interval because time has slowed down within the circuit.

Charge carriers in motion over a long time interval would appear as a self-sustaining current. At 4-10 million volts, Tesla's larger coils were certainly energetic enough to produce such effects.

Comparison tests have been made between conventionally wound high voltage coils and modified Tesla coils with significant results. Both types of coils were the same size, using the same wire size and power input. The Tesla coil produced an 800% energy curve above the conventional coil. The conventional coil plotted resonance at 3.55 MHz., while the Tesla coil was at 1.47 MHz.

b) Direct Electrical Transmission

Nicola Tesla believed that it was possible to transmit electrical energy over any distance without wires, and conducted numerous tests to verify this concept.

The special laboratory constructed at Colorado Springs, Colorado, was set up for this purpose, along with provision for wireless (radio) transmission projects. As the laboratory was completed during 1899, the construction of an amplifying transmitter was started which lead to the tests on transmitting electrical energy over short distances.

One major discovery made during these early experiments was the extraordinary behavior of the atmosphere during the transmission of high voltage electrical impulses. The experiments showed that air at normal atmospheric pressure is freely conductive to electricity, which was most encouraging for the continuing of further experiments. Further tests revealed that electrical transmission in the air of several million volts is enhanced at higher altitudes where the atmospheric pressure is considerably lower.

Tesla calculated that the distance between the transmission and receiving stations made little difference, and that these distances might be only a few miles apart, or several thousands of miles. The only factor involved in long electrical transmission distances would be the high elevations required for the towers to compensate for the earth's curvature.

The fact that Tesla and his colleagues had constructed several working models of electrical transmitting stations operating under the same conditions which would exist for a full size transmission/receiving plant, convinced them that such a system was commercially practical.

I. TESLA TYPE PROJECTS

The tentative specifications for the commercial electrical transmission plants were: Two stations (terminals) maintained at an elevation of not more than 35,000 feet above sea level, the electrical voltage maintained at 15 million to 20 million volts, which could produce the energy of thousands of horsepower; with the transmission distances ranging from hundreds to thousands of miles.

Realizing that elevations of thirty to thirty-five thousand feet are both difficult and costly to achieve, Tesla's group aimed at considerably reducing the tower height required for a practical system. The electrical transmission tower at Wardenclyffe on Long Island, at a height of about 700 feet is the apparent result of the tower height compromise arrived at for short transmission distances.

Three U.S. patents were issued to Tesla as a result of the successful series of electrical transmission experiments which were:

1) No. 645, 576 System of Transmission of Electrical Energy
2) No. 649, 621 Apparatus for Transmitting Electrical Energy
3)No. 1, 119, 732 Apparatus for Transmitting Electrical Energy

These three issued patents dealing with electrical transmission are presented in the adjacent pages of this Section. Commentary:

While this direct transmission of electrical energy has been proven practical by Tesla's extensive tests, it must be noted that the method presents several operating problems and hazards in practical application.

In addition to the necessity of high transmission towers, the problem of air space/or intrusion into the transmission zone remain an operational hazard. Low flying planes, birds, foreign objects which enter the transmission zone would be destroyed, so that operational safety is open to question.

c) Danish Institute of Ecological Techniques

The Danish Institute of Ecological Techniques is an officially registered association now counting 250 members (December 1986). Meetings are held at the University of Copenhagen. The association has an ongoing multi-project alternative energy program organized with a number of basic concepts under research and development.

This program is under the direction of Asst. Prof. Borge Frokjer-Jensen, and it is mainly dealing with selecting basic unit concepts which have already shown some initial success and with reviewing each of these to see if further development can be made to them. A unit feature is the project organization of the association: assignment of individual projects to project teams comprising of three to five active research-interested members which guarantees that rapid determinations can be made on each project type. Appr. every second month all the groups are meeting together to share experiences and to plan the next strategy.

The projects now under review and development are 1) a Variable Reluctance Generator (project for 1987), 2) a Kromrey type generator (project for 1987), 3) a Bedini type battery/recharge system, 4) a Tesla/Hubbard Amplifying Transformer, and 5) an N-generator with liquid contacts. (Further projects are mentioned in chapter 4 under Viktor Schauberger Projects). Finally there are groups dealing with the works of a) Viktor Schauberger, b) Wilhelm Reich, c) Nicola Tesla, and d) Rudolf Steiner.

Such an organized and continuing development effort should be expected to produce some positive results on this schedule of R & D effort.

In considering the Hubbard Amplifying Transformer, this device was originally rebuilt and evolved by members of the Swedish Ecological Institute, Stockholm, who have run tests on this unit and have found an electrical power step-up of about 3:1, at the resonant frequency of the unit.

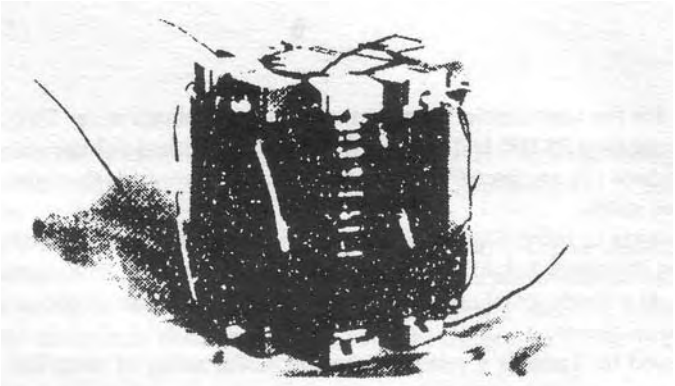
lc. Description of the Hubbard Amplifying Transformer

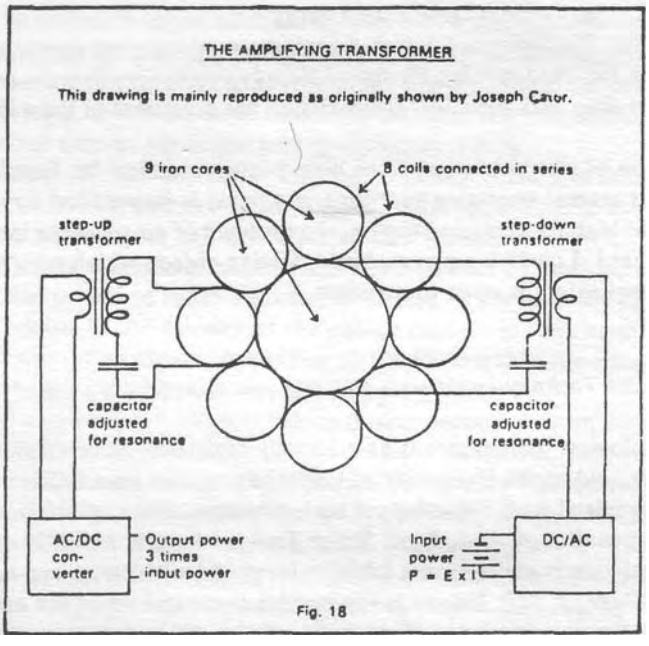
Of all the various types of free energy units recorded and witnessed during the early twentieth century, none has been more controversial and indeterminate than the multi-coil transformer unit introduced by Alfred M. Hubbard in 1919. The various newspaper accounts are technically contradictory and the actions of Hubbard generally inconsistent with any valid energy project.

There have reportedly been at least four distinct modes of operation recorded for the Hubbard unit, with only one having a valid and proven cord of functioning. The various methods are as follows:

l)Input source from a standard 110 V.A.C-60 cycle input, per newspaper articles.
2)Input source from a battery and A.C. pulsing unit, as per test operating prototype of Swedish Research org.
3)Input source: a transmitted energy differential between earth grid zones, (Theory only, unproven)
4)Input source from a radium core within the central primary coil.

It is believed that tachyon field activity occurs at the resonant frequency of the coil-transformer assembly, which is supported by Tesla coil data, which serves as a background for further R & D on these units.





THE AMPLIFYING TRANSFORMER

The natural magnetic resonance frequency: 2.8 GHz.

Suggested resonance frequencies for the transformer:

5,340 Hz = 2,8 GHz/2^{19}
10,681 Hz = 2,8 GHz/2^{18}
21,362 Hz = 2,8 GHz/2^{17}

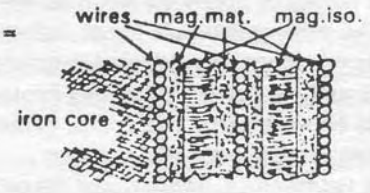
The ideal mechanical length of coils: 5.75" = 146 mm (or multiple hereof)
Ratio of the center coil diameter to the length 1/3 (in the test model)
which equals a diameter of the center coil of 146/3 = 49 mm.

The ideal ratio of the diameter of the center coil to the 8 smaller coils must be THE GOLDEN SECTION, i.e. the diameter of the small coils must be 30 mm.
The following wire diameters have been tested: 0.25, 0.5 and 0.75 mm.

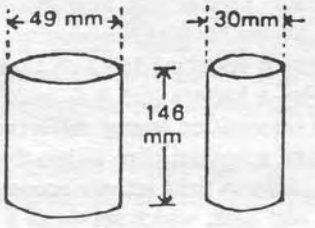
Measurements of the test model:

output power = 3 times input power.

For multilayer coils:



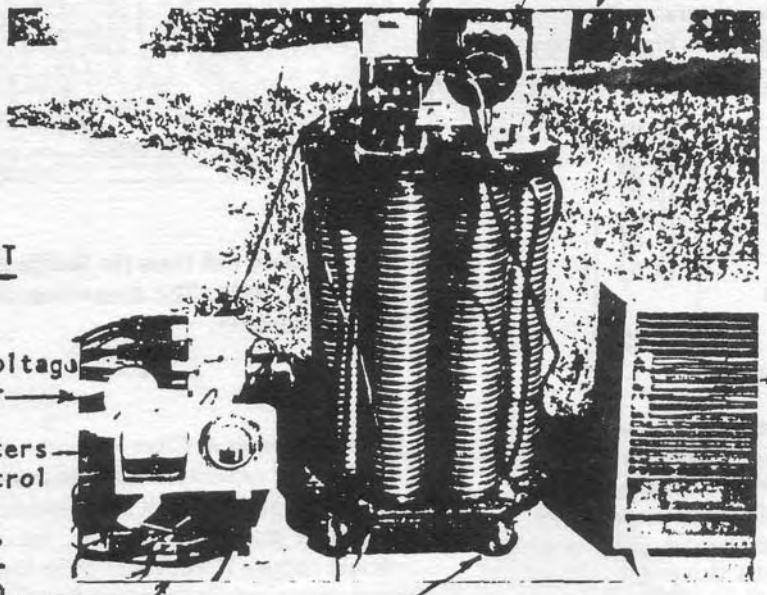
Measurements:

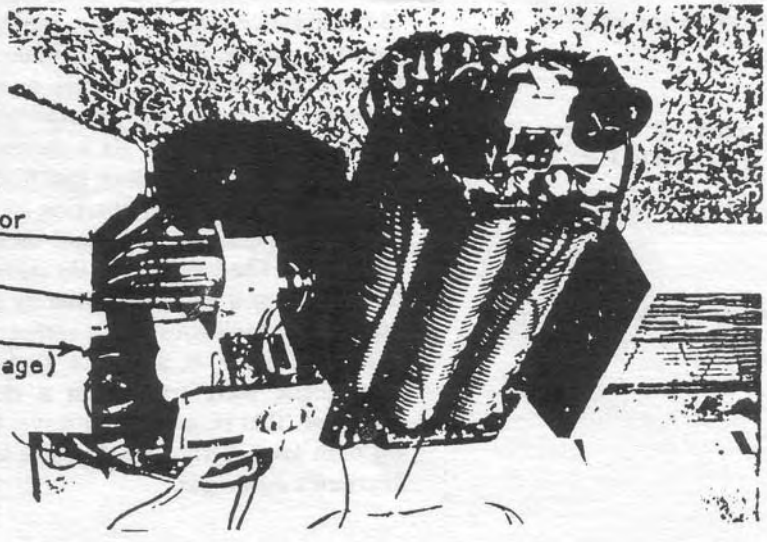


HUBBARD
TRANSFORMER / GENERATOR
PROTOTYPE

3/6/85

ASSEMBLED T/G UNIT





The coil described in the first paper was the type Tesla would have used in his experiments with very high potentials and currents. It was large, requiring 1525 meters of wire, and ran down to half voltage in 26.39 seconds. Tesla's writings and the reports about other inventors following Tesla suggest that smaller devices with longer damping times could be built. In "On Light and Other High Frequency Phenomena," 1893, Tesla says that "It is easy, by observing certain artifices, to wind a coil through which the impedance will be reduced to the value of ohmic resistance only," during the discussion of coils of apparently smaller dimensions. Also, the coil system built by Hubbard in 1919 and pictured with a 1928 newspaper story which was reported to have a damping time of several hours suggest that such a device could be built on a smaller scale.

Random Motes & Clues

Capacitors and Inductors

Coils or inductors are one of the building blocks of radio. Another building block is what is called a capacitor or a condenser. This device is iust two metal plates very close together, separated either by air or by an insulating solid material. Fig. 61 shows

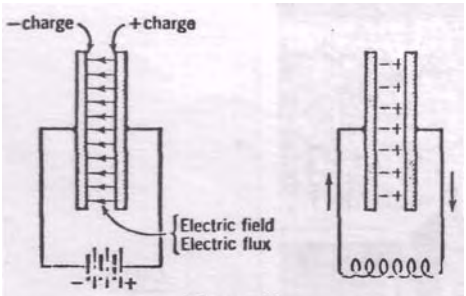


Figure 61

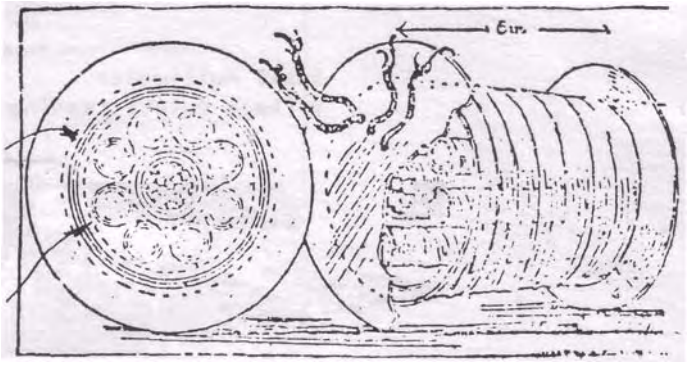
two such metal plates connected by a battery, which produces an electric field and an electric flux between them.* By Gauss's law, this flux is associated with charges on the surfaces of the conductors. If the total flux is ϕ, there is a charge $Q = +\phi$ on the positive plate of the condenser and a charge $Q = -\phi$ on the negative plate of the condenser. The voltage V across the capacitor is related to the electric field E between the plates. If the field is constant between the plates and if the distance between the plates is /.then

$$V = El$$

For a given capacitor, the charge Q is proportional to the voltage V; that is, Q is equal to V multiplied by a constant C:

$$Q = CV$$

The constant C is called the capacitance of the capacitor.



The Hubbard coil from the Seattle Post Intelligencer of 27 Sept. 1928. The dimensions are 6 in. long and 4 1/2 in. diameter.

Random Notes & Clues

Usually, capacitors (condensers) have unmoving plates and constant capacitances and are used for other purposes. Consider, for instance, what would happen if we removed the battery of Fig. 61 and connected the plates of the same capacitor together by means of a wire as shown in Fig. 61. A current would tend to flow from the positive plate to the negative plate. Suppose, however, that the wire was coiled, to form an inductor; It would take some time for the current to start flowing. Further, once the current got started in the coil, it would be hard to stop. As a matter of fact, the current would oscillate back and forth sinusoidally in the coil, alternately charging the plates of the capacitor minus and plus, and then, later, plus and minus. The behavior of the current is like the oscillations of a mass supported by a spring. The capacitor is analogous to the spring.

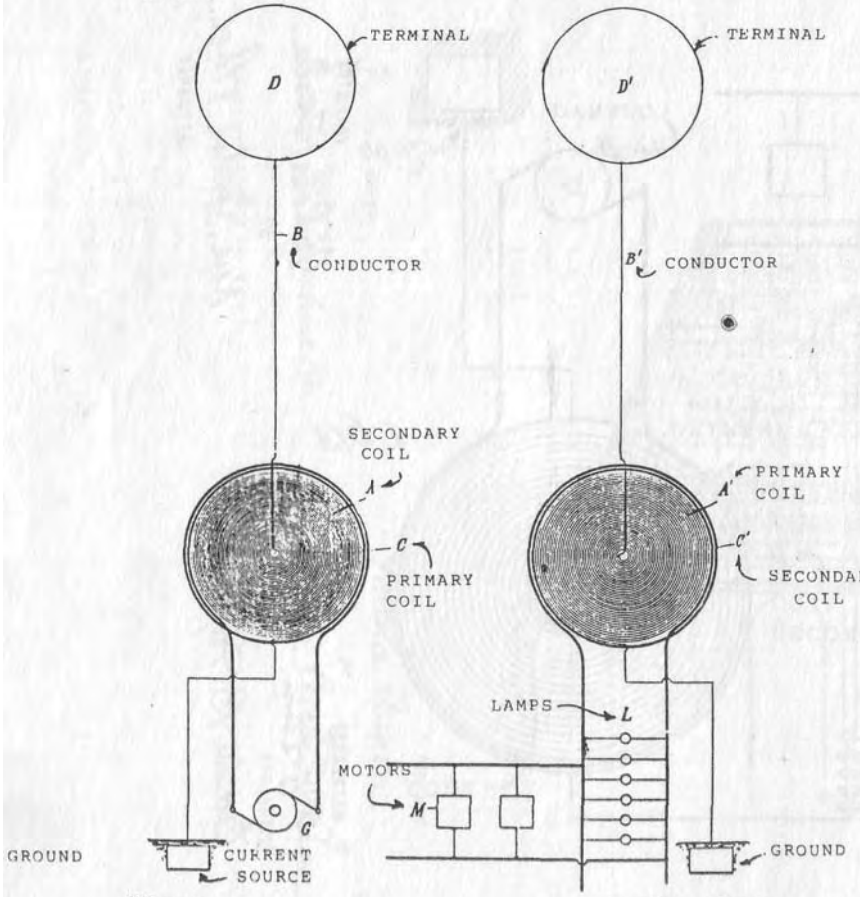
This behavior is also like that of an electromagnetic wave trapped in a closed box or resonator, that is, a standing wave. It should be, for both are governed by the same laws—that is, Maxwell's equations.

No. 649,621. N. TESLA. Patented May 15, 1900.

APPARATUS FOR TRANSMISSION OF ELECTRICAL ENERGY.

(Application filed Feb. 19, 1900.)

(No Model.)



Witnesses:
Benjamin Miller.
G. W. Merritt

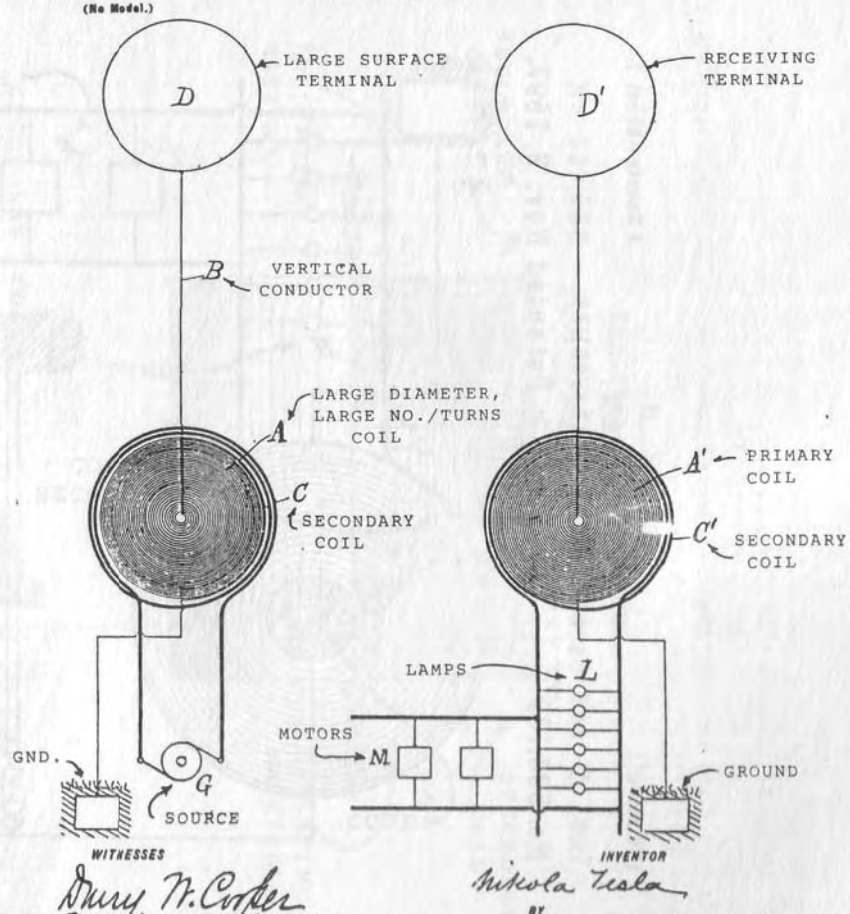
Nikola Tesla, Inventor
by Kerr, Page & Cooper
Att'ys

No. 645,576. N. TESLA. Patented Mar. 20, 1900.

SYSTEM OF TRANSMISSION OF ELECTRICAL ENERGY.

(Application filed Sept. 2, 1897.)

(No Model.)



WITNESSES
Percy N. Cooper
M. Lawrence Dyer

INVENTOR
Nikola Tesla
BY
Kerr, Curtis & Page
ATTORNEYS.

(No Model.) 2 Sheets—Sheet 1.

N. TESLA.

ELECTRICAL TRANSFORMER.

No. 593,138. Patented Nov. 2, 1897.

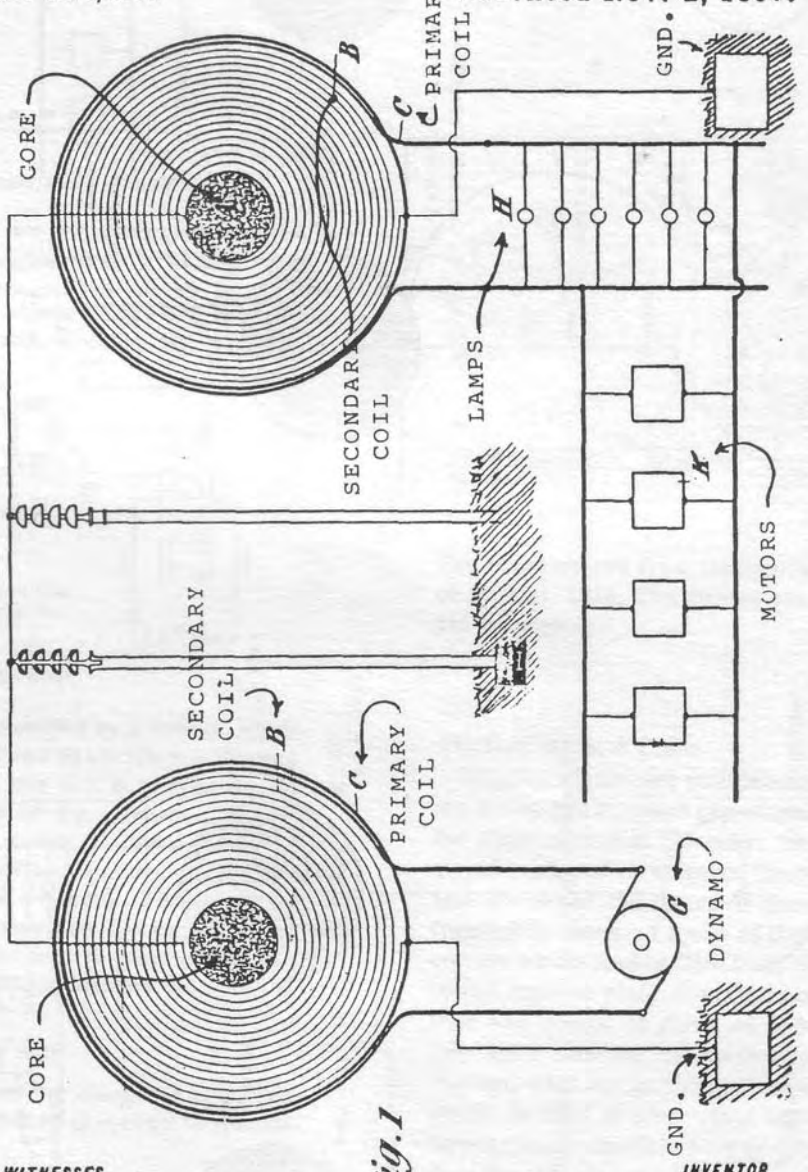


Fig. 1

WITNESSES

G. B. Lewis.

Edwin B. Hopkinson.

INVENTOR

Nikola Tesla

BY

Kerr, Curtis & Page.

ATTORNEY

N. TESLA.

ELECTRICAL TRANSFORMER.

No. 593,138. Patented Nov. 2, 1897.

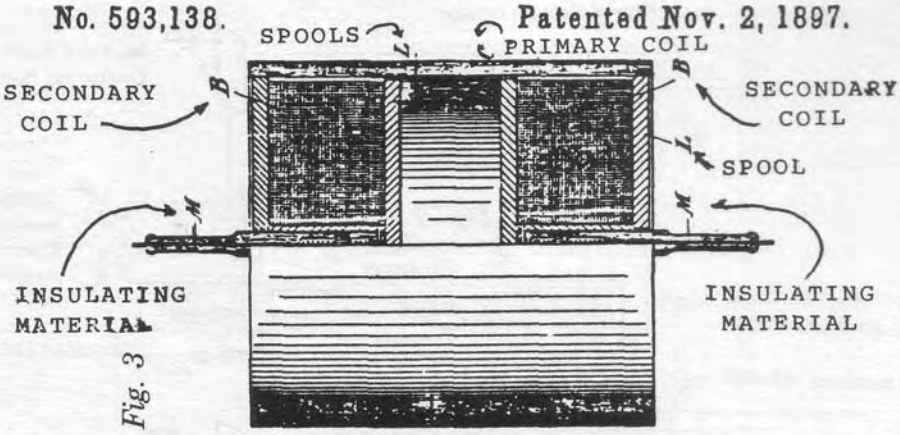


Fig. 3

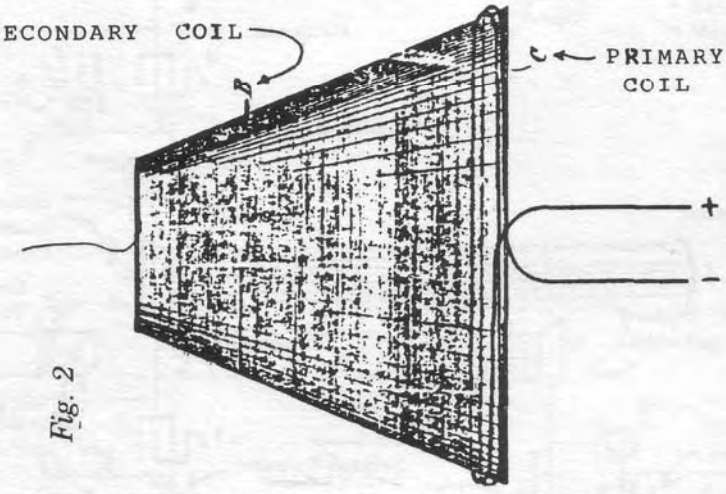


Fig. 2

WITNESSES

G. B. Lewis

Edwin B. Hopkinson.

INVENTOR

Nikola Tesla

BY

Kerr, Curtis & Page

ATTORNEYS

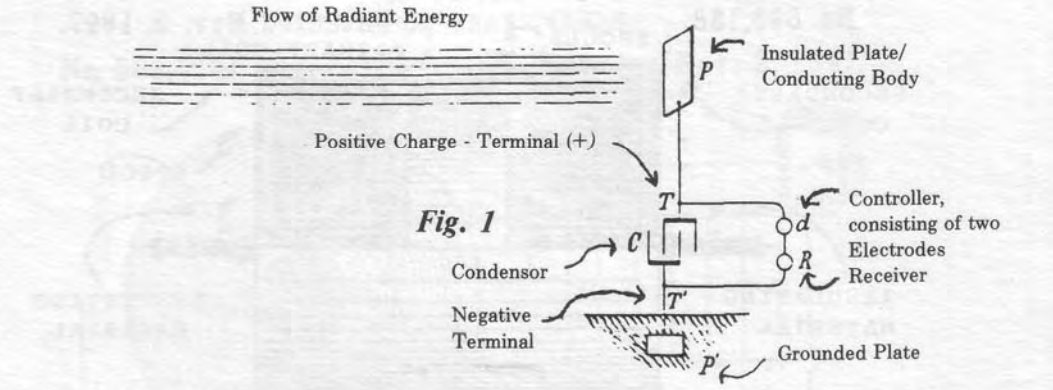
No. 685,957. Patented Nov. 5, 1901.

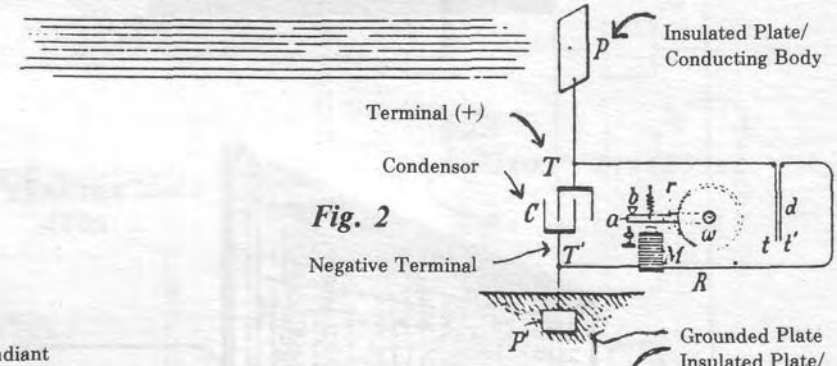
N. TESLA

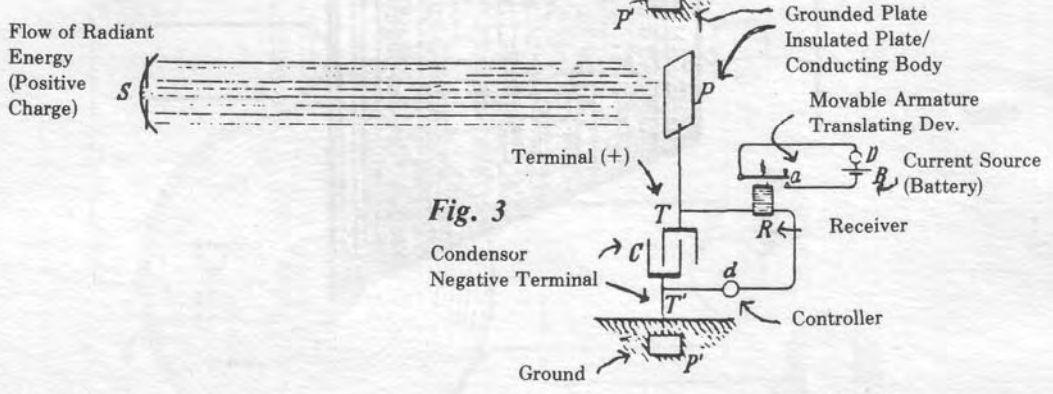
APPARATUS FOR THE UTILIZATION OF RADIANT ENERGY

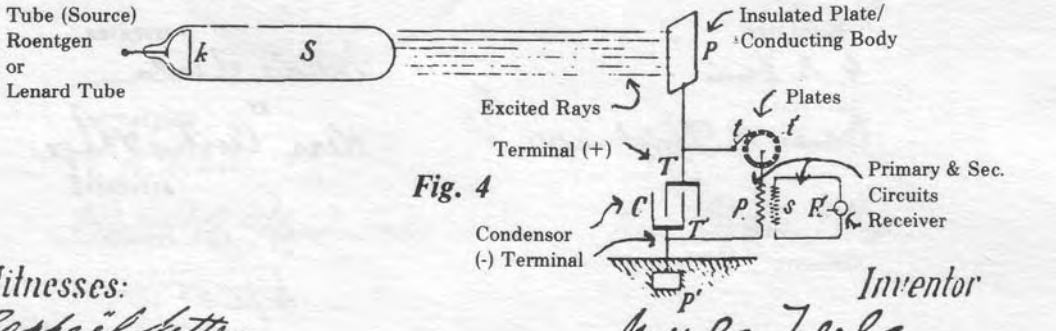
(Application filed Mar. 21, 1901)

(No Model.)









Witnesses:
Rudolph Kitter
M. Lennon Dyer.

Inventor
Nikola Tesla
by Kenn. Page & Cooke Attys.

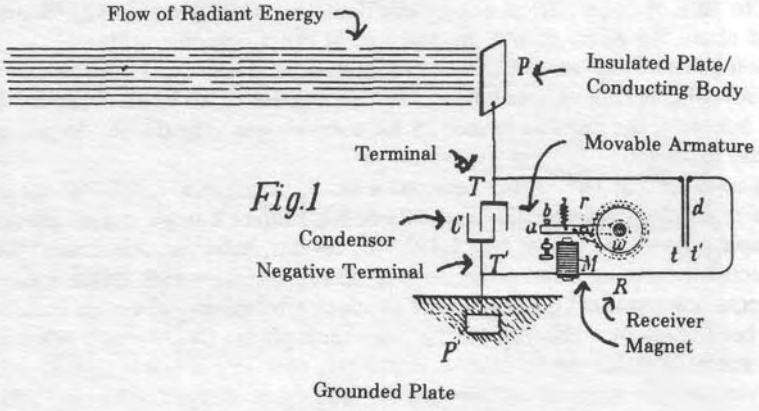
No. 685,958. Patented Nov. 5, 1901.

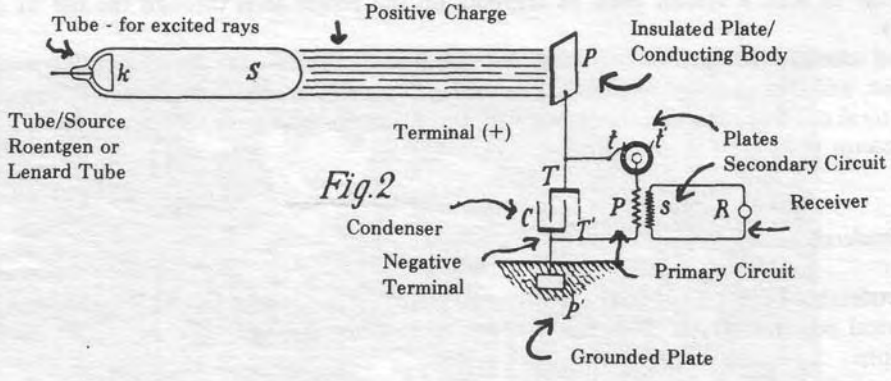
N. TESLA.

METHOD OF UTILIZING RADIANT ENERGY.

(Application filed Mar. 21, 1901.)

(No Model.)





Witnesses:
Raphael Netter
M. Lawson Dyer

Nikola Tesla, Inventor
by Kerr, Page & Cooper Attys

II. DR. T. HENRY MORAY U. S. (1892-1972)

The work and operating hardware of Dr. T. Henry Moray are the most credible, fully documented and witnessed of all the free energy systems in the solid/state, or non-rotating type of equipment. A full description of Dr. Moray's work on radiant energy systems is covered in his book: "The Sea Of Energy-In Which The Earth Floats" published by the Cosray Research Institute, Inc., Salt Lake City, Utah, 5th Edition, 1978.

Dr. Moray's extensive work in the field carries over from Nicola Tesla's earlier theme that the earth was enveloped in an electrical energy zone that was free to be harnessed. During the early 1930's Dr. Moray experimented with solid state circuitry, cold cathode ray tubes and discovered the electronic properties of a "soft, white, stone-like substance (Swedish stone) which he used as "Moray valves" in the early radiant energy devices. It is known that this semi-conductive "Moray valve" was the key component of these radiant energy systems which were comprised of a moderate array of vacuum tubes, a power supply, step-up circuitry and a 100 foot long antenna.

The key point in the basic value of Dr. Moray's radiant energy systems is that they were witnessed and documented, and produced up to 50 K.W. of electrical energy at a demonstration given in 1925. Some of his smaller versions consistently produced about 3.5 K.W. output documented at other demonstrations.

As is true in most cases of proven and demonstrated devices and systems, Dr. Moray was subjected to harassment for his work, including being shot at, and having a test system destroyed by an observer. Although he had a number of loyal friends and believers, the damage caused by his enemies was instrumental in preventing his system from being fully developed and marketed.

It is interesting to note that Dr. Moray received a U. S. patent No. 2,460,707 for an Electrotherapy device, as shown, and some researchers believe that elements of his radiant energy system are adroitly disclosed within this schematic. A complete review of patent No. 2,460,707, reveals, however, that it is a theraputic device which utilizes standard A.C. electrical input, a transformer to step-up the voltage which drives special discharge tubes. The high potential, high frequency electrical field is said to produce a theraputic effect on patients.

Attempts have been made over the intervening years to duplicate Dr. Moray's original radiant energy system, but with no reported successes achieved to date. It is unlikely that any possible success with this technology would be disclosed now in view of the suppression imposed on such "free energy" systems.

At this point it is appropriate to consider the various factors in Dr. Moray's system which produce such a relatively high level of power output. There have been a number of radiant energy devices developed such as Lester Hendershot's device and some others listed elsewhere in this manual, but none of these present the high power levels achieved by Dr. Moray's technology.

As was previously stated, the detector or "Moray valve" is the key component which receives the space/radiant energy from the antenna, and it has been stated that the detector was the forerunner of present day germanium diodes. The next stage in such a system must be stepping up the power level through the use of coils, capacitors and transformers.

A disclosed schematic of the Moray system indicated a coil in parallel with the Moray Valve, with one leg connected to the antenna, and the other leg to ground. Two tuning capacitors are also in parallel with the detector portion of the circuitry. A total of three vacuum tubes along with three transformers are connected in series from the parallel leads from the detector portion of the circuitry.

a) Lester Hendershot

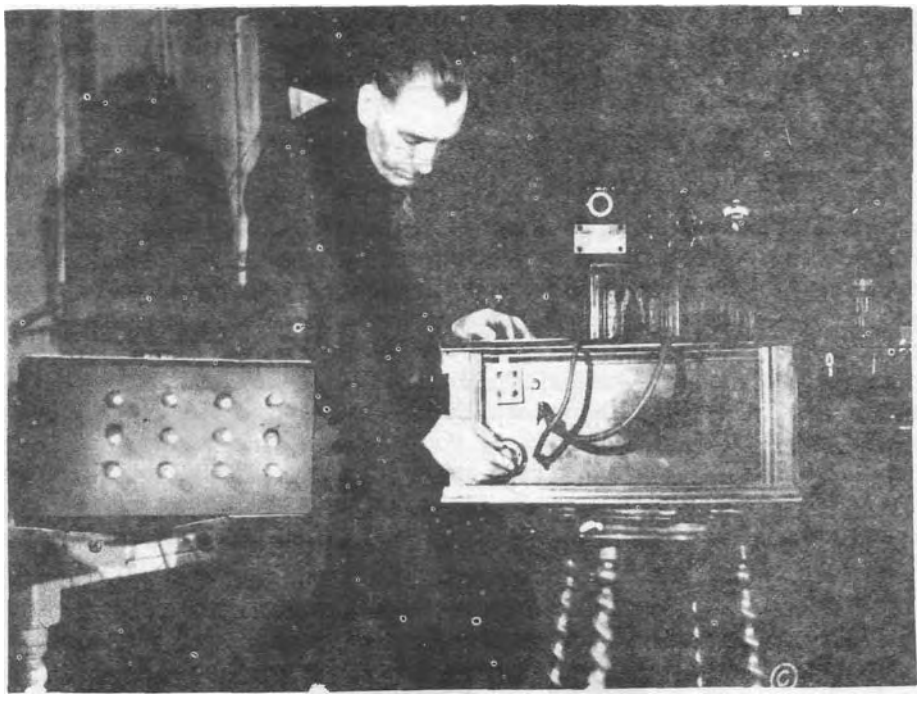
Lester Hendershot received publicity for his small electrical power unit during the 1920's, and this unit produced useful electrical power at about 300 watts, but tended to be erratic and difficult to start up during numerous test demonstrations.

Hendershot was essentially a layman/researcher and therefore could not provide a scientific explanation of how his device worked, but evolved it on an intuitive basis using existing radio technology as a guide to the various components and construction. The unit was first built in the 1920's and was based on tapping the space energy field in a similar way to the T. H. Moray energy system. Some researchers call Hendershot's unit a Moray device in miniature, but there are substantial differences in the components, construction and operation of these two concepts.

The Hendershot generator was the subject of considerable publicity and he conducted private demonstrations from time to time during the 1950's. There are conflicting theories on how the Hendershot unit works, one being that the electrical activitiy in the coils causes a stress (potential) in the capacitors located within the two coils. Electron flow tends toward the inner plate, and thereby initial electrical activity drives them back. The output from this unit is reported to be about 1/3 KW, and considerable tuning was required to obtain a consistent output during the various tests.

The Hendershot generator consisted of twin, special basket-weave coils, capacitors, transformers and an input magnet/clapper unit, which produced a wattage increase, and was dependent on the tuning of the input magnet/clapper component.

Dr. T. Henry Moray in Salt Lake City, Utah October, 1970



The basket-weave coils had a cylindrical capacitor incorporated into them, since a capacitance factor is necessary in these types of units to store the charges that are being built up in the coil sets. The coil frequency was within the radio broadcast range and the induction level was compatible with radio art also.

The most interesting feature of the Hendershot generator was the input/excitation arrangement which consisted of a permanent magnet/clapper as an adjustable buzzer unit. A set of small coils (2) was located adjacent to the iron clapper unit, to receive the electromagnetic pulses from the clapper-magnet combination. The combined magnet-coil assembly was mounted on a slide so that an adjustable screw could move the clapper in relation to the magnet, and thus change the "buzz" frequency.

Some experimenters have used regular door buzzers as the input/excitation component and these appear to serve the same purpose when reworked to provide the adjustment feature described above.

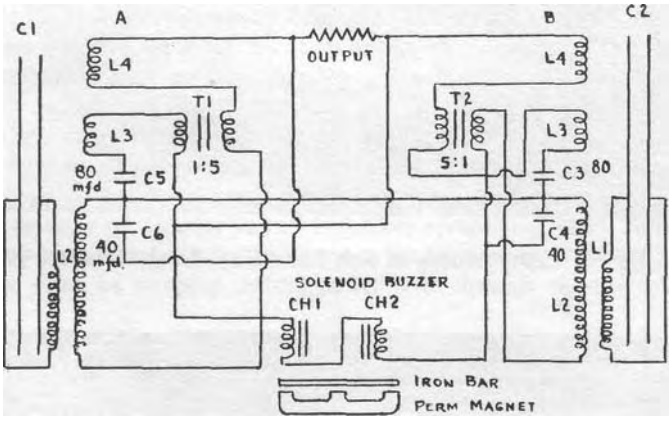
The two transformers required for the Hendershot circuity are vertical oscillator transformers which can be obtained from old T. V. sets. The turns ratio should be 5:1, and these units must be tested for functional operation before being assembled in the final assembly.

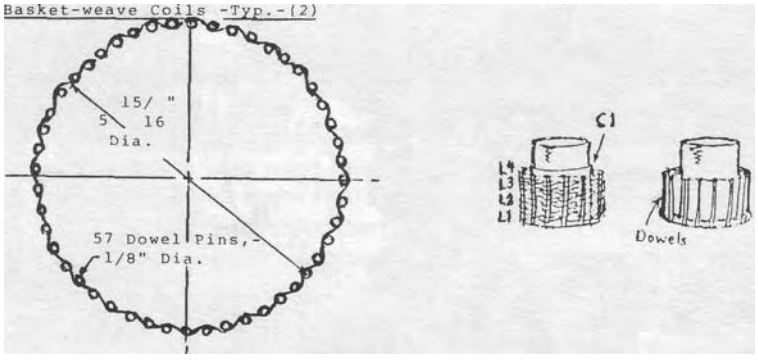
A total of six capacitors are required for the assembly, two of these being the central capacitors within the basket-weave coils. Two dual electrolytic capacitors are required, which are standard Pyramid TM 58 units, rated at 40-80 Mfd., at 450 working volts.

A schematic of the Hendershot Generator is included with this description, but the full construction details are not provided, since they are available from other sources.

Although the construction of the complex basket-weave coils is involved and time-consuming, the Hendershot Generator represents a generally desirable type of free-energy device of the solid-state type.

HENDERSHOT CIRCUIT SCHEMATIC





II. DR. T. HENRY MORAY PROJECTS

b)Radiant Energy Patents - Various R. E. Circuits and Devices

1. Patent No. 2,813,242, Nov. 1957 L. R. Crump-Atmospheric Energy Device

This radiant energy conversion art is quite significant since it discloses three distinct conversion applications circuits which are both practical and worthy of further study and improvement.

The accompanying schematics show the three versions, along with the identification of each component within the three circuit diagrams. Of particular interest is the circuit diagram shown in FIG. 3, which is the high voltage D. C. conversion, using input coils, tuning capacitor, a transistor oscillator, transformer and diode circuitry. This arrangement should offer the best combination of components to produce a high potential output from a radiant energy source.

The circuit version shown in FIG. 2 is for a general low voltage, wattage arrangement which is simple and may be useful for certain applications. The circuit version shown in FIG. 1 is a direct transistor radio operational design, which is self-explanatory.

There is a general similarity of Crump's work to that of Lester Hendershot, except for the addition of the antenna and diodes in Crump's art. It should be noted that the tuning capacitor in Crump's circuit is a desirable feature in any Radiant Energy device, since these circuits need to be "tuned" to R.E. frequency. Hendershot's permanent magnet/& clapper component is a desirable dynamic feature which might be used to advantage within the Crump circuitry, but this will require some experimentation before an optimum match is obtained.

The addition of the diodes in Crump's circuitry increases polarization efficiency, and generally improves the R. E. conversion value of this device. It should be noted that it is believed that Dr. T. H. Moray also used antenna-coupled coils directly connected to his 100 foot long directional antenna, as the Crump input circuitry indicates.

In a general manner, the Crump circuitry appears to bridge between the art of Moray and Hendershot in the selection and application of the various components, as can be seen from a review of their circuit components.

2. Xtec Corporation, of New Britain, Conn, with reference to Crump's Patent above, (Pats. pending)

This group has developed an antenna/amplifier arrangement which is said to collect and amplify atmospheric/radiant energy. The antenna operates as a dependent power supply for the system. An input signal turns on the power amplifying antenna which draws on the potential between two points in the environment to complete a circuit through a form of inductive coupling. The result is amplified energy for the load to be driven.

3. Patent No. 3,249,944 Electromagnetic Transduction Utilizing Radiant Energy, by H. E. Stockman

This patent describes an electromagnetic transducing apparatus responsive to radiant energy, a transducing means for converting high frequency radiant energy into corresponding high frequency electrical signals. Detection means coupled to the transducing means for converting the high frequency electrical signals into unipolar electrical energy.

Also required is a source of first magnetic field, and means responsive to the unipolar electrical energy for establishing a second magnetic field. An adjustment means between the first and second magnetic field means.

4. Peter Markovitch - developer of "Apparatus to Rectify Ether Energy" (1977-1978)

The prototype work of Markovitch was based on Nicola Tesla's U. S. patent No. 725, 605, which disclosed his "pancake" type coils in a dual signalling mode of operation.

The prototype unit consisted of an "antenna," hollow metallic ball made of thin conductive metal which served as the "etheric" collection component. The collection (antenna) ball was secured to a vertical copper large diameter rod. A conductor wire was coil-formed around this vertical rod and connected to an outer circular primary coil.

The two working coils of the arrangement are the outer, circular primary coil which is toroidally wound around an inert circular and round coil form. A second, or secondary circular, toroidally wound coil is wound in a continuous involute pattern within the outer primary, circular primary coil. The circular primary and involute, inner secondary coils are wound in opposite hand directions. The toroidally wound primary and secondary coils have merit, since the coils can have a relatively large number of turns within a confined volume.

It is claimed that this device produces about 500 watts of D. C. electricity, but the absense of dynamic electronic conversion circuitry casts some doubt on this claim.

Nov. 12, 1957 L. R. CRUMP 2,813,242

POWERING ELECTRICAL DEVICES WITH ENERGY ABSTRACTED FROM THE ATMOSPHERE

Filed March 12, 1954

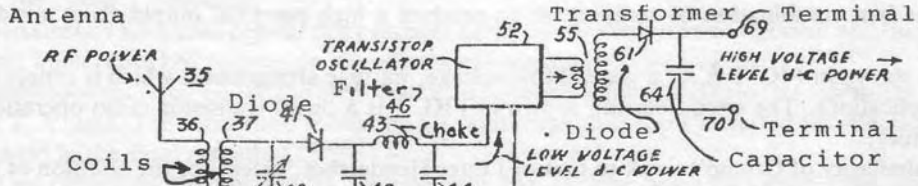


FIG. 3

SCHEMATIC DIAGRAM showing a system for obtaining high energy D. C. source at a high voltage, from the Atmosphere.

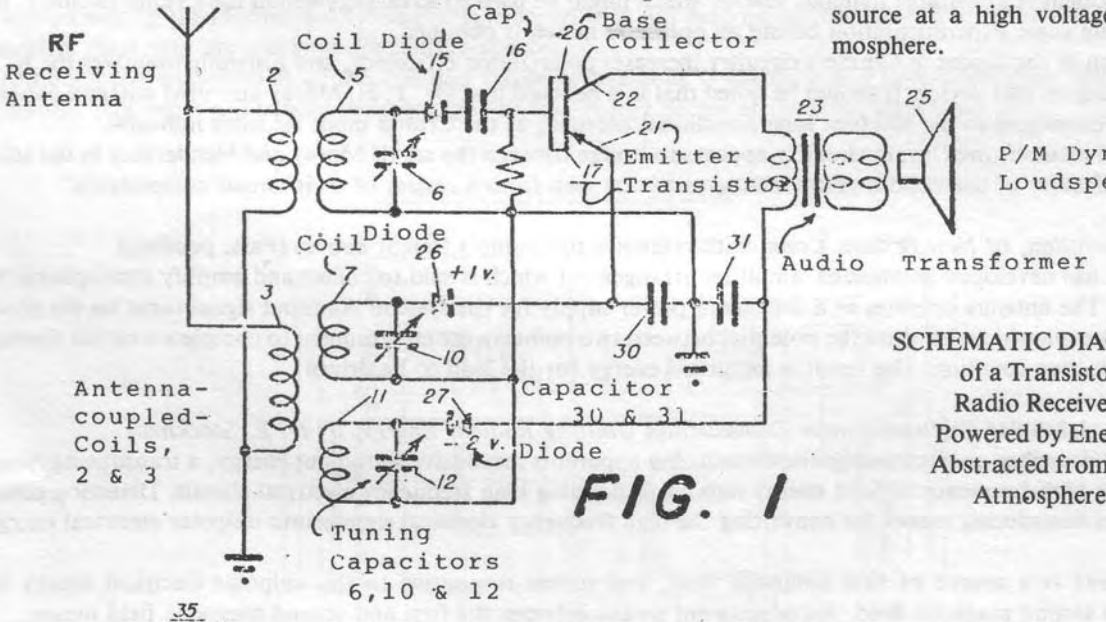


FIG. 1

SCHEMATIC DIAGRAM of a Transistor Radio Receiver, Powered by Energy Abstracted from the Atmosphere

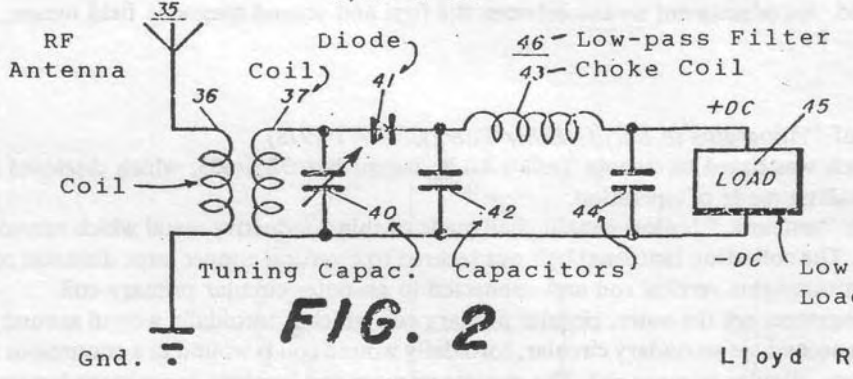


FIG. 2

SCHEMATIC DIAGRAM showing a General Application, to provide Direct Current Power to a Load.

INVENTOR

Lloyd R. Crump

BY W. E. Thibodeau + A. W. Dew

ATTORNEYS

5. Joseph Tate - Electromagnetic Radiation/Radio Wave Energy Conversion

The art of Joseph Tate is based on attempting to harness all the (radio) frequencies using an antenna to bring the waves to a source where the antenna's (vibration) is converted into electrical energy.

His circuitry includes clusters of diodes and capacitors in a cascading pattern used to convert and (amplify) the radio waves into useful electricity. A total of twelve diodes (IN34) along with ten capacitors are arrayed in a symmetrical form, - six diodes and five capacitors, per side of the symmetrical formed circuitry.

This type of R. E. conversion arrangement is not as flexible as the Hendershot/Crump art, since no tuning or input pulsing feature is present, nor is there any oscillator or transformer stage employed. While both the diode and capacitor components are desirable in such R. E. circuitry, but the dynamic electronic conversion devices are a necessary part of these units.

6. Patent No. 2,115,578 W. M. Hall, Radiant Energy Receiver

The Radiant Energy Receiver unit of W. M. Hall is essentially a single detector and conversion device, as shown in FIG. of this patent. The device is comprised of a sealed container which houses a window, a diaphragm, a disc electrode connected to a vertical rod which is an electrode or terminal. The sealed container (housing) forms the other terminal of the device.

The device operates by changes in the capacitance between the disc electrode and the detection chamber directly above it. This device is deemed to be less effective in R. E. circuitry than either the permanent magnet/clapper component of Hendershot, or the coil/tuning capacitor of Crump. (Pat. No. 2,813,242).

7. Patent No. 1,540,998 H. Plauson Conversion-of Atmospheric Electric Energy

This atmospheric energy conversion arrangement is generally similar to the art of L. R. Crump, but is not cost/effective due to the use of large balloons and connecting conductors.

c) WIN - U. S.)

WIN Energy Conversion To Electricity

Source

WIN is the acronym for "World Into Neutrinos" and chosen to create an image of the world circulating around the sun, the sun and its planets moving through its galaxy and all moving through the Universe at a rate of 160 kilometers a second - that of planet earth moving through a sea of neutrinos.

The neutrino is a subatomic particle in the lepton class and is the smallest neutral particle. Physics literature gives reports of current studies to determine the mass of the neutrino with best upper limit projections of 60 eV for the electron neutrino and 1,200 eV for the muon neutrino. H. C. Dudley gave the energy density of the neutrino flux through which we move as being between 10^8 and 10^{10} eV/cm.

Two patents, U. S. 685957 and 685958 were granted to Nicola Tesla on November 5, 1891, on an apparatus and method of utilizing radiant energy. If he reduced these to practice they were not mentioned in the general literature on his life. Dr. T. Henry Moray also chose to call his energy source "radiant energy" and demonstrated the production of 1400 watts using "a small wooden box about 18"x24"x24"... .connected to no prime mover but only to an antenna and ground" in 1928. His work was reported in the book The Sea Of Energy. The New York Times has been reporting on the present day efforts of Joe Newman to patent his device which produces 25 times more energy than it uses. His book describing his work is entitled The Energy Machine Of Joseph Newman.

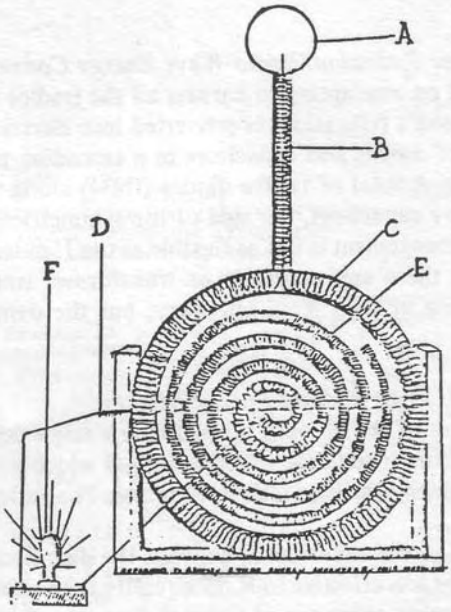
Other names reported for this energy in the book by Hans A. Nieper on Revolution on Technology, Medicine and Society are tachyon and gravity field energy. The hypothesis upon which my work is based is that the neutrino flux is the source. In a sense this is academic as the most important question is "what is the yield and the capital cost per kilowatt hour?"

Conversion Method

Figure 1 is a schematic drawing of my energy conversion process. The flux enters into the crystal from the top, is concentrated and flows into the dam. A reaction occurs in a propriatary ceramic material which results in the production of excess electrons. These flow through the load to ground and do work. The process is simple with no mechanical moving parts.

TYPE I

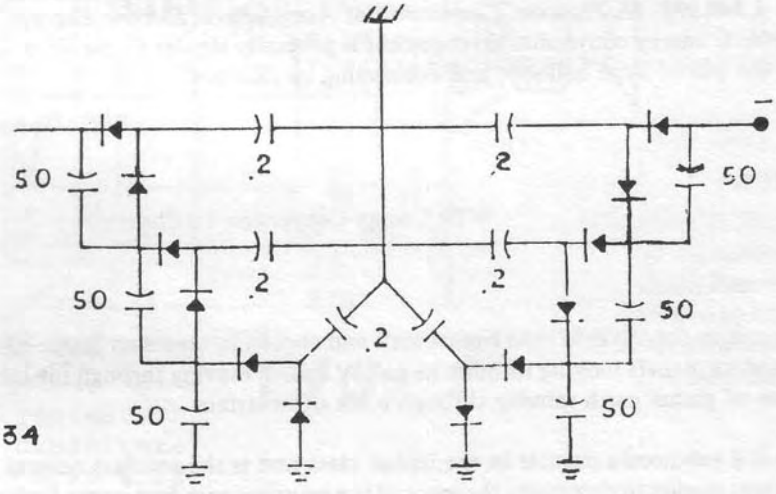
P. Markovitch



TYPE V.

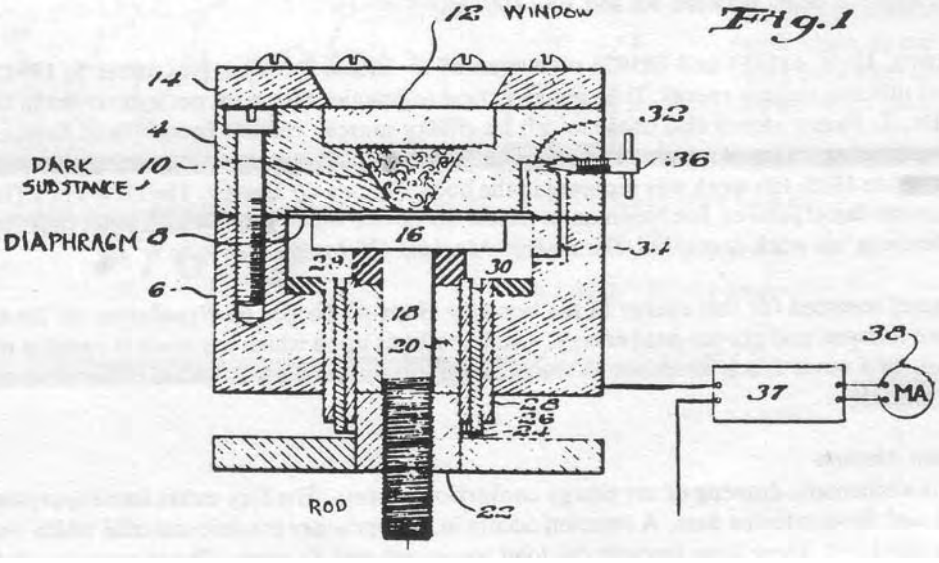
J. Tate

ALL DIODES IN34



TYPE VI

W.M. Hall



II. DR. T. HENRY MORAY PROJECTS

In my present mock-up model I use an outside power supply to activate the device and am just beginning studies on yields. The near term goal is to attain a 200 percent yield with the feed-back circuit to be developed later. Direct current is utilized and multimeters across the dam segments have shown current simultaneously leaving the dam in both directions. This is evidence that my concept is working.

Potential Applications

There are no known limitations of the amount of power which can be produced as this is a function of the design and the load. The base area of the crystal is important but is not limited to the flux through which the device moves as the sides are subtended to a much larger area. Scale-up factors of 10 are probably maximum for safety reasons. My present model should be capable of reaching one kilowatt. It will be the decision of the process owners as to how far to go in scale-up sizes. It has been my thinking that it will be desirable to eliminate electric power transmission lines coming into an application. Others will have to decide whether to scale up to power an entire country, a state, a city or an individual in that city.

The most obvious application seems to be a power supply for all electric homes, one having a capacity of 10 KVA. In industrial applications such as arc melting steel separate units for each furnace battery may be preferrable to one unit for the entire plant as the electrode can become a part of the conversion device.

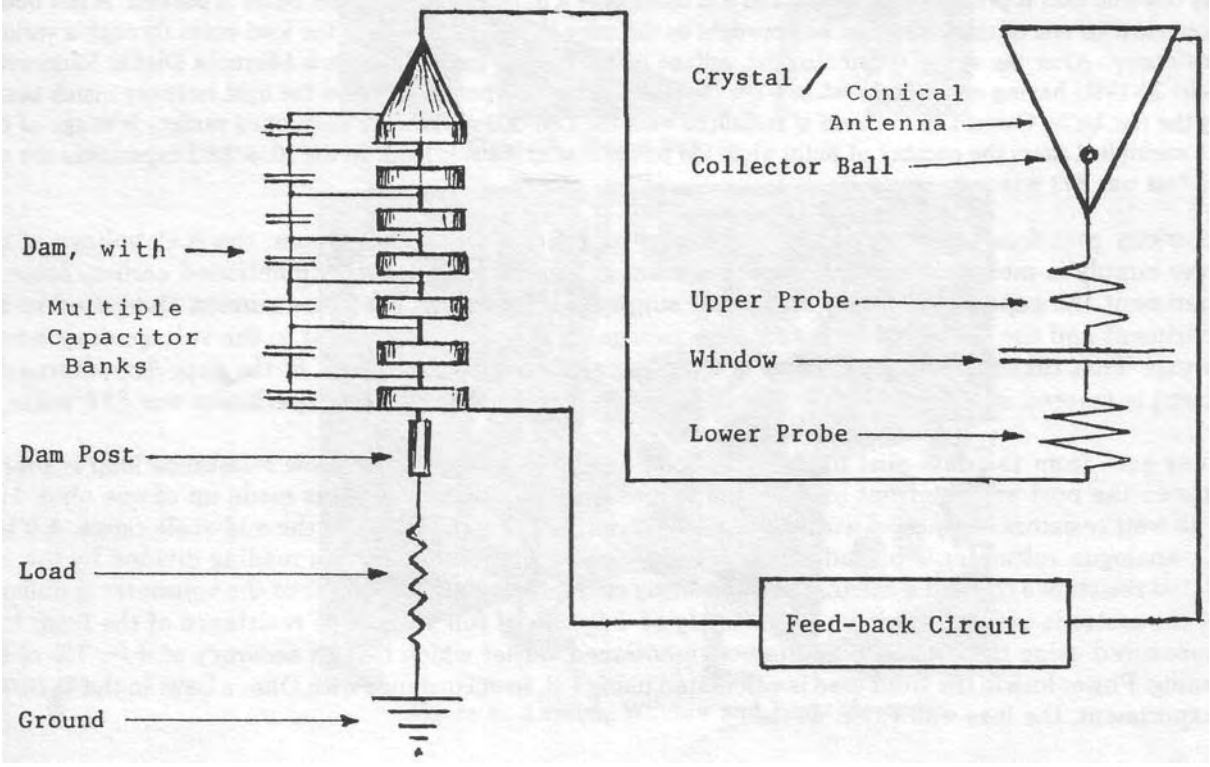
Yield and Cost

The amount of power lost in the conversion process is expected to be small, perhaps one percent which may be lost in the dam and the two spark gaps. Fuel costs will be zero as we will be converting free energy in a manner similar to hydroelectric power. This is too early to project actual costs of manufacture. A guess is that the 10 KVA units will be produced in volume for a cost of $1,000 and a selling price of $3,000. The decision to sell or lease these units will be a business decision made by others.

Patent Considerations

My present plan is to apply for a U. S. Patent only on the mechanism of energy conversion. Apparatus patents will be the problem of the organization to which the mechanism patent is assigned as well as all foreign patents.

Figure 1. Win Energy Conversion Schematic



II. Dr. T. Henry Moray Projects

WIN Energy Conversion Project

Subject: Power Measurements

Power In

Figure L. is a schematic drawing of the power supply in use at this time. The alternating power going into the mock-up model is calculated by multiplying the alternating current times the alternating voltage in accordance with Ohm's Law.

The alternating current is measured with a Universal Enterprise DM-300 multimeter on the 10 ampere scale. This is reported to have an accuracy of three percent of the reading or ± /-five digits.

Fifteen one megohm resistors between the high voltage leads having a one percent accuracy are used as a voltage divider. A Radio Shack analogue type multimeter good to ± /-percent of full scale and with 10,000 ohms/volt, is used to measure the voltage across two of the resistors. The actual voltage is calculated by multiplying the voltage read times the ratio, 15/2.

In experiment number two on October 6 the alternating power going to the rectifier bridge was 1,912 watts.

Power Out

Power loss in the bridge is small, as determined by fell, and is ignored.

Direct current goes from the bridge through a Simpson 0 to 2 Ampere D. C. ammeter, Model 26, with an estimated accuracy of ± /-2% of full scale. This meter indicates the current going to the mock-up model.

Power loss in the crystal is negligible as determined by feel. The window is closed in the present series of experiments and has zero power loss.

Direct current voltage across each dam segment is measured with a total of five 25,000 ohms/volt multimeters, one 2,000 ohms/volt and one 1,000 ohms/volt meters. These have an accuracy of /3% of full scale. The total voltage of the seven segments is multiplied times the direct current to calculate the dam power loss, in accordance with Ohm's Law. Any alternating current is ignored. In the 10/6/86-2 experiment the dam power loss was 28 watts.

Only one side load is presently being used and this consists of a bank of 100 watt light bulbs in parallel. A test bulb is placed close to one of the load bulbs and brought to the same light level as one of the load bulbs through a variable transformer. After the run is terminated the voltage of the bulb is measured with a Micronta Digital Multimeter, Model 22-198U having an accuracy of ± /-l% of the reading. Two people agree on the light intensity match before ting the test bulb. Current to the bulb is measured with the DM-300 multimeter mentioned earlier. Wattage of one bulb multiplied times the number of bulbs gives the power loss in the side load. In the 10/6/86-2 experiment the side load loss was 893 watts.

Electricity goes from the dam to the post across an air gap. In an experiment, the A.C. voltage of the power supply is measured with the direct current going into the model as mentioned earlier. After an experiment the gap is closed and the power supply brought up to the same current level used in the experiment and the A.C. voltage noted. The voltage difference is attributed to the voltage drop across the gap. That times the direct current is used to calculate the power loss in the gap. Any alternating current is ignored in order to be conservative. Power loss in the 10/6/86 experiment was 512 watts.

Power goes from the dam post to the front load as shown in Figure 2. A low resistance load is placed between the post and the front load to function as a voltage divider. This is made up of one ohm, 10% by 25 watt resistors, in parallel with the number varied to bring the meter in the mid-scale range. A 0 to 1 A.C. analogue voltmeter is placed across the low resistance divider with its reading divided by the calculated resistance to yield a calculated alternating current. The manufacturer of the voltmeter is unlisted but the meter is assumed to have an accuracy of +/— 3% of full scale. The resistance of the front load is measured using the Micronta multimeter mentioned earlier which had an accuracy of +/— 1% of the reading. Power loss in the front load is calculated using I^2 R, in accordance with Ohm's Law. In the 10/6/86-2 experiment, the loss was 1,588 watts.

Electric current returns to the power supply through the back load and is measured with a Gruen 0 to 3 Ampere D.C. ammeter with an estimated accuracy of +/— 3% of full scale. Resistance of the back load is measured with the Micronta multimeter. Power loss is calculated by I R and was 750 watts in the 10/6/86-2 experiment.

Yield

At this stage I am more interested in proving that an energy gain has been achieved than in the actual amount of gain. It is useful to be able to relate changes in the mock-up model to yields but in most experiments only the effect on meter readings is noted. Relationships should hold even though the inaccuracy may be higher than desired. Once an energy gain has been proved scale up to higher efficiencies becomes an engineering problem rather than a scientific one. To summarize:

Power in	1,912 watts
Power out	
Dam	28 "
Side load	893 "
Gap	512 "
Front	1,588 "
Back	750 "
Total out	3,771 "

Yield = 3,771/1,912 x 100 = 197 percent.

This is in the reasonably confident range and adequate for marketing.

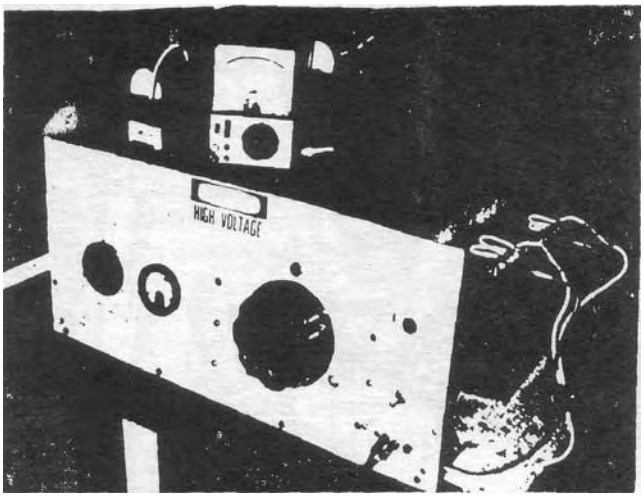


Figure 3. Power Supply.

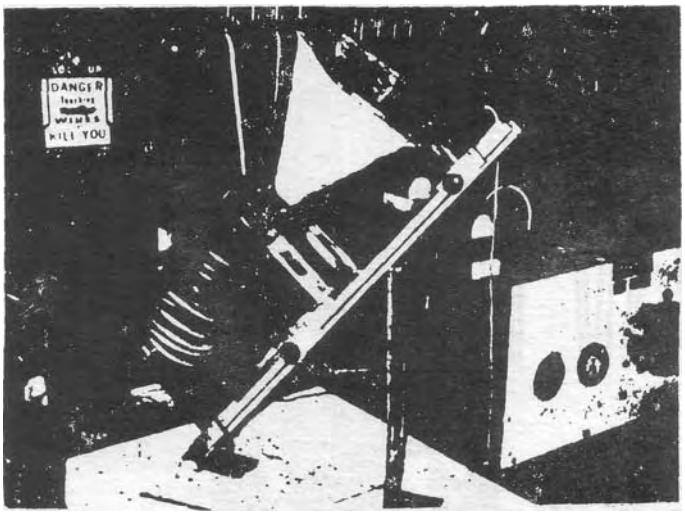


Figure 4. Crystal, Window and Probe Assembly.

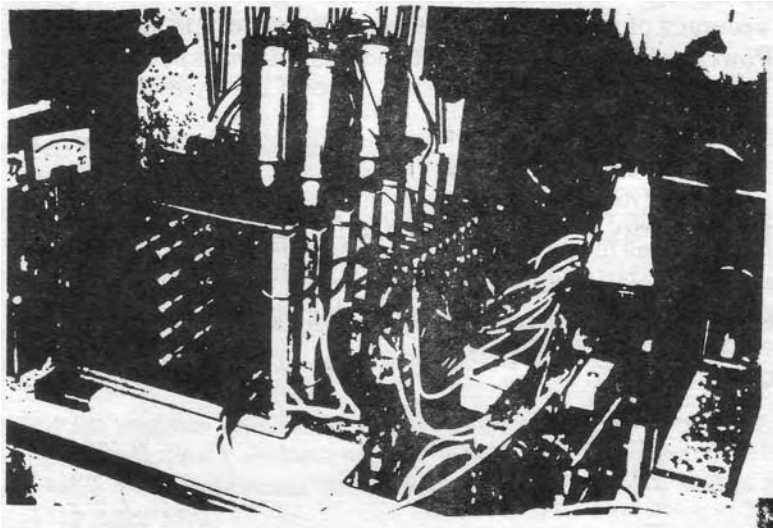


Figure 6. Capacitor Bank for Dam.

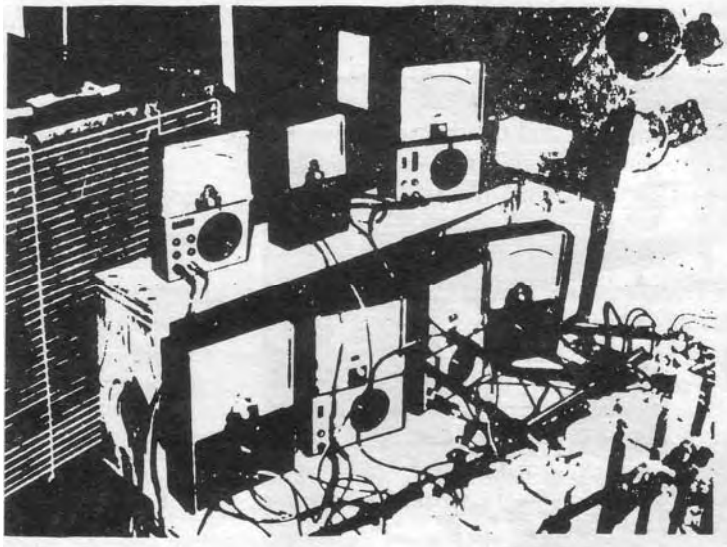


Figure 7. Voltage Meters for Dam.

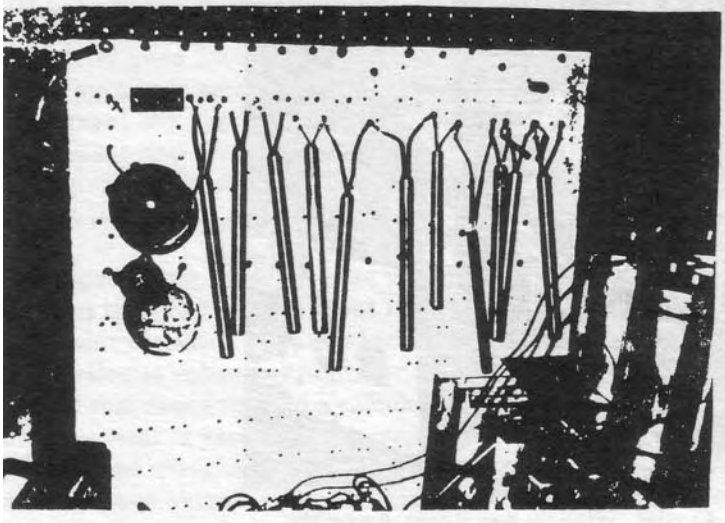


Figure 10. Back Load

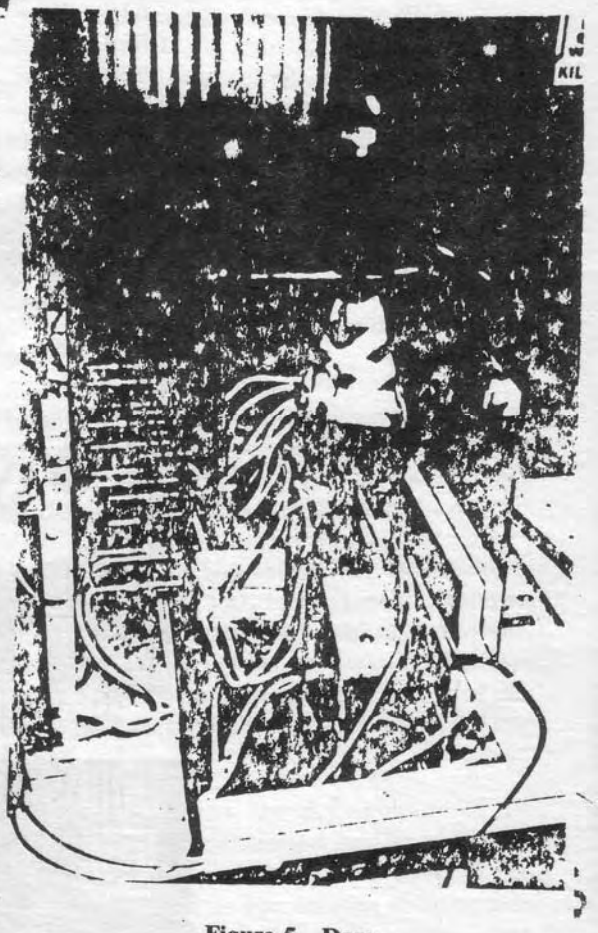


Figure 5. Dam.

III. JOHN SEARL (U.K.) (1931-)

As the "real world" of applied physics slowly unfolds for us in the coming years, the name of John Searl will surely take his rightful place along with the truly great men of science! John Searl has played a major role towards the understanding and application of anti-gravity research and actual flight.

Searl's name will become known to anti-gravity flight in the same way that Robert Goddard has become the founder of rocket space flight, and they have been following similar paths towards the realization of their technologies. Although the name of John Searl is known only to a relatively few scientists and engineers, his now-famous "levity discs" are an outstanding example of tachyon field activity at its ultimate usefulness due to the extremely high peripherial disc velocities.

A total of forty-one levity discs of various types and sizes have been built, tested and flown over the period from 1940 through 1961, which were unpublicized events at the time. It must be noted that Searl, as an advanced electrical researcher in England originally started out to build an improved electrical generator in horizontal disc form. As the machine concept was planned and developed, Searl had no idea of what his work would ultimately lead to.

His disc generator concept was based on the belief that a segmented metal disc would cause free electons within the ferrous surface to be spun off by the centrifugal force and thus could be collected by some means at the disc's periphery. He reasoned that conventional electromagnets could be uniformly placed around the disc's periphery to convert the collecting free electrons into a useful E.M.F. In order to provide a pulsed electron flow the disc's iron surface was slotted or segmented, so that the multiple electromagnets produced a very high pulsed E.M.F. flow.

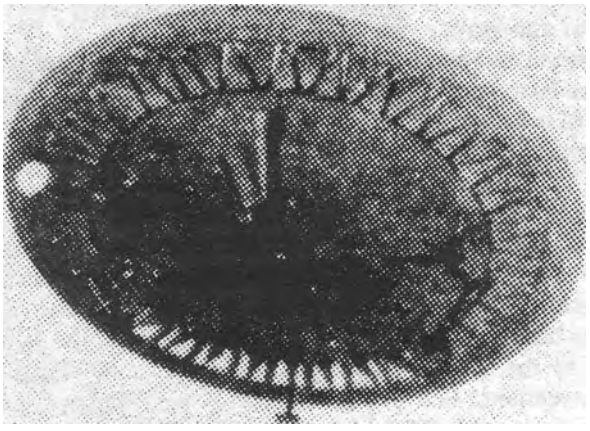
During the testing of the first disc, the electrical power was produced as expected, but at a very high wattage level. As the test were continued both static electrical activity and the smell of ozone were noted as the disc was driven at higher speeds by the input motor. As the disc speed was increased, the testing group was astounded to see the disc rise from the test bed and reach an approximate fifty foot elevation above them!

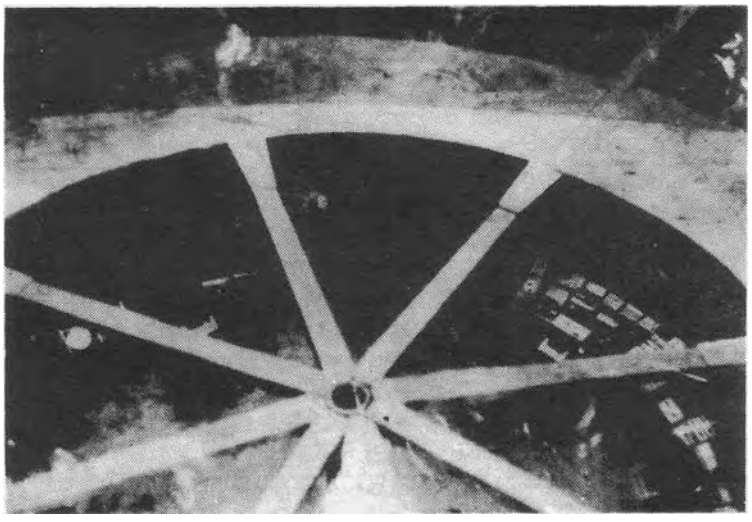
At this point the disc was obviously decoupled from its driven motor so that it was operating in a self-propelled mode, and as we have now come to understand, - was sustained by tachyon field energy. While hovering at this level for a while, a glowing halo was noted around the disc's periphery, and finally the disc accelerated rapidly and disappeared vertically from sight. All of the subsequent levity disc flights followed this same sequence pattern; the static electricity and ozone activity, the rising of the disc to an approximated fifty foot level, with the glowing halo effect and finally the eventual disappearance into space.

It is probable that the physological impact on the numerous witnesses to these test flights must have been most profound, since most dared not voice what they had witnessed with their own eyes, for fear of being ridiculed. While this attitude can be accepted for laymen observers, any observers who were trained scientists can only be called "cowardly frauds" since they are not true to their "professed" calling. Since the subject of flying saucers has become "taboo," no official press releases on Searl's work were evident, but the British Government has undoubtly recorded his activities and probably has an R & D project actively based on this pioneering anti-gravity work. There have been reports of a "levity disc" project active in Canada, but this cannot be confirmed due to security measures.

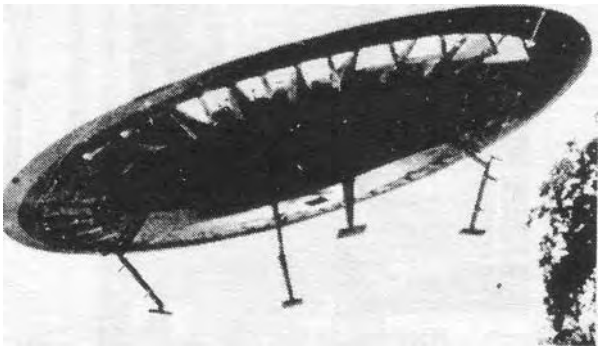
John Searl's levity disc work has been further explored and expanded on by Prof. Shinichi Seike of Japan's "G" Laboratory, who has photographic evidence of Searl's levity discs in flight and grounded, as present in his book: -"Principles of Ultrarelativity," G. Res. Labs, 1982, 6th Ed.

JOHN R. R. SEARL





Experimental set-up of the British inventor John Searl



a) Otis T. Carr (OTC Enterprises, Inc. 1945-1959 U. S. Patent No. 2,912,244 - Amusement Device

The flight vehicle project work of Otis T. Carr has marked similarity to the levity disc art of John Searl, and it is certain that both these flight vehicle systems function in the same physical way!

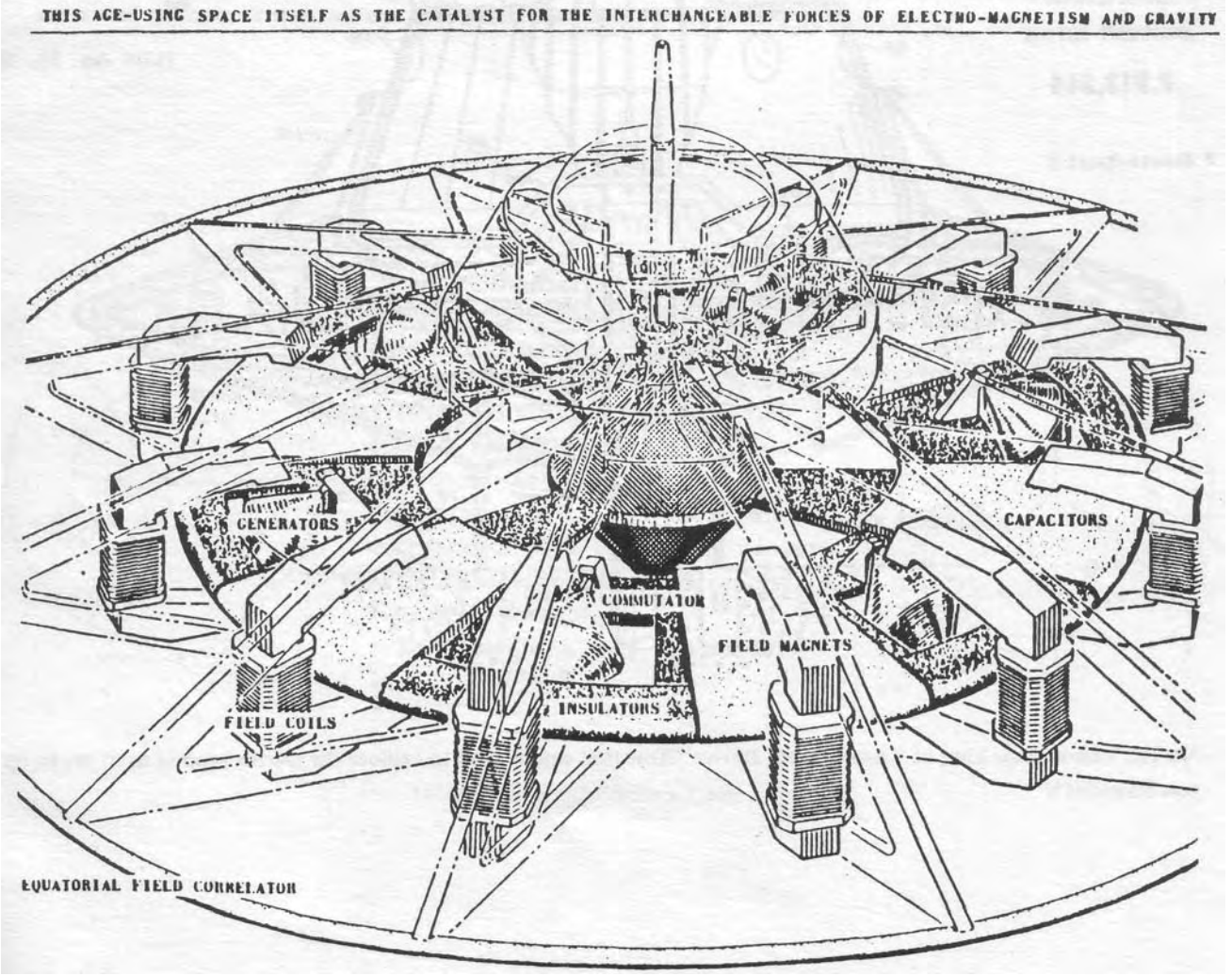
Mr. Carr completed his theoretical and applied research effort in 1947, and attempted to interest the government agencies and universities on his finding but to no avail, since they were far more interested in atom-splitting at that time.

As many other inventors before him, Mr. Carr and his group decided to direct his technology effort into the educational and toy fields, where he felt that better cirulation of his findings would be achieved. The evidence of this decision on his project work can be seen in his U. S. Patent No. 2,912,244, Amusement Device, which is actually a nearly complete disclosure of his anti-gravity flight vehicle.

There can be no doubt that his patent was actually a "simulation" of his A/G flight vehicle, since all the operating components of his art were in their true relative spatial relationship within the vehicle! Such key components as No. 86, "simulated" electromagnets, and No. 90, - plurity of plates - (Searl's segmented plates) are in their true operating relationship, leaving no doubt that this was a basic prototype/plan for his A/G flight vehicle!

Mr. Carr has stated that his flight vehicle operates on the following principle: - "Any vehicle accelerated to an axis relative to its attractive inertial mass, immediately becomes activated by free-space energy and acts as an independent force." "We have shown that a charged body accelerated to an axis rotation relative to attractive inertial mass, indicates polarity in a given direction."

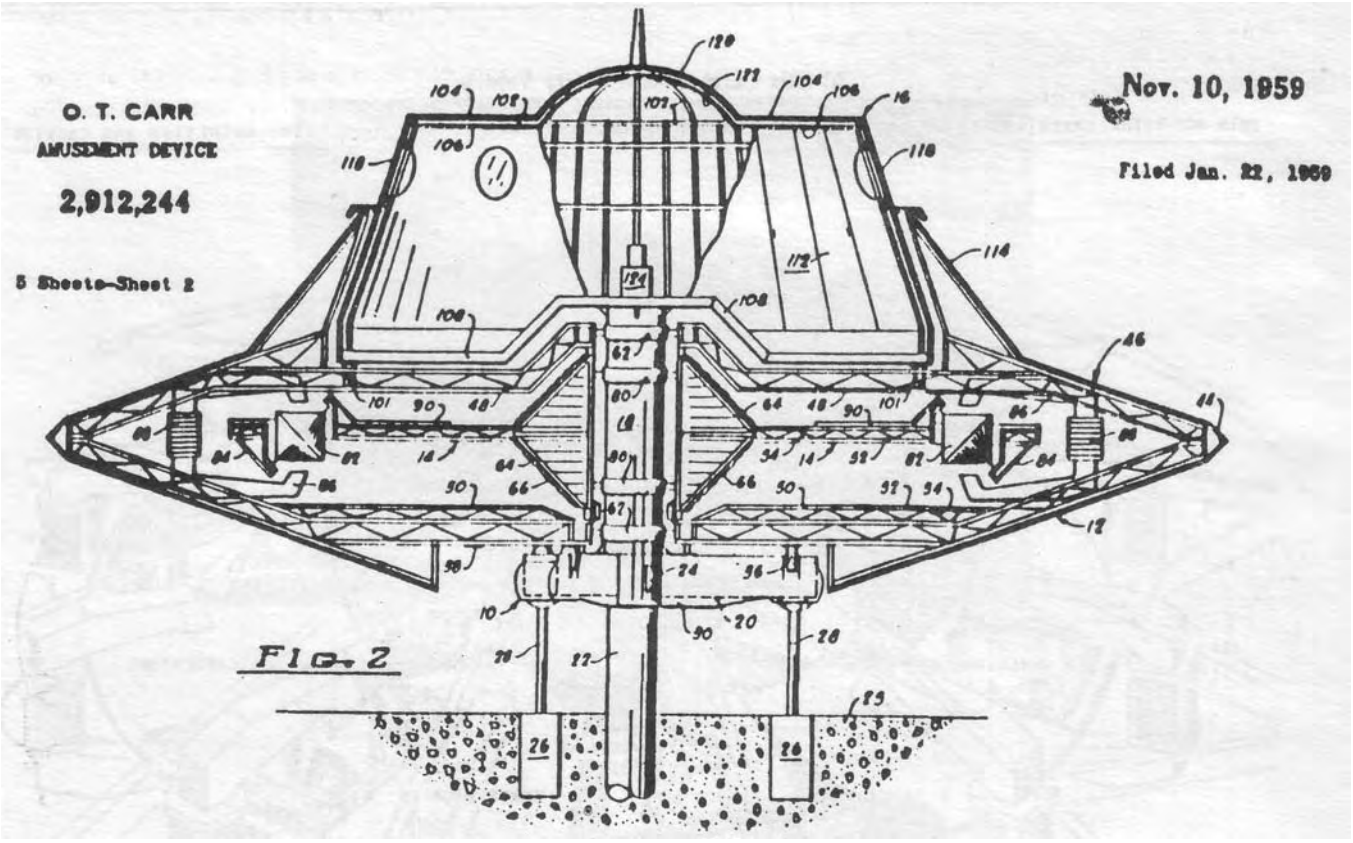
b) Otis Carr's Anti-Gravity Vehicle



While these statements by Carr can be generally confirmed, they do not explain the actual electromagnetic interchange and extreme polarization which occurs between the segmented ferrous disc and the peripherial electromagnets which results in the "G" field cancellation and anti-gravity flight that John Searl's technology has shown.

One of the most interesting and key components was his so-called, - "Ultron energy accumulators," which were essentially spinning metallic capacitors of an unusual - geometric shape, being square-shaped in one plane, and round-shaped in a 90 degree rotated plane. It must be noted that these Carr - "Ultron's substitute-in-function for Searl's segmented steel plates as the high speed rotating inductive component. There appears to be considerble merit in utilizing a planetary, spinning capacitive component with its ability to store a sizable charge at high peripherial speeds. In both Searl's and Carr's units the accumulating charge from the rotating element is discharged into electromagnets at the disc's periphery. The flat area on Carr's disc contains uniform capacitor banks which are said to oscillate the charges received by the rim electromagnets.

Although the addition of the unique Carr-"Ultron" component is an apparent improvement over Searl's basic A/G flight technology, the two arts tend to reenforce the credibility of each other, as per the comparison of the similarities involved in the designs. In regard to free-energy units and systems, it appears that Carr's technology with the addition of the capacitance "Ultron" offers an advantage, since this capacitance function decidedly improves the "over-unity" output of these devices!!



NOTE: This is some kind of "Amusement Device"-One that can be used to explore the worlds around us!!! Wake up you Physicist's

b) JAPAN "G" LABS - Prof. Shinichi Seike

Prof. Seike's work astrides both static and dynamic energy conversion systems, as can be noted from his book:- "The Principles of Ultrarelativity"-1982, published by the Gravity Research Laboratory at Uwajima City, Ehime (798) Japan. Prof. Seike is the Director of the "G" Labs and he has been instrumental in recording and publizing the work of John Searl and his levity disc, anti-gravity technology.

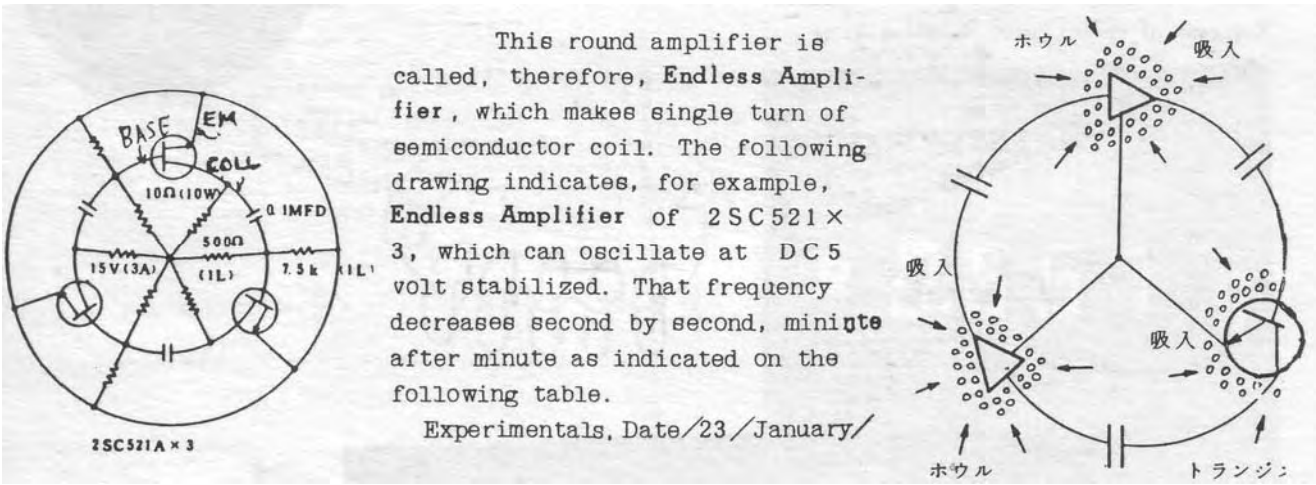
The "G" Labs have expanded on the theory and operation of the levity discs, and his book (above) contains several photographs of Searl levity discs in flight and on the ground, plus the test setup photos. These photographs of the levity discs have not been previously exposed and provide visual evidence to the validity of anti-gravity flight.

John Searl's levity disc technology, as related to free energy systems, is covered elsewhere in this Manual, (under John Searl), and is of interest as a potential free energy generator unit. Dr. Seike's contribution to free energy is in the form of his "transistorized G-Power generator'-' or "endless amplifier" which is based on the ability of special triple transistor closed circuit to absorb "G" strain energy, - or the tachyon field. It is known that p type transistors (semiconductors) carry holes (Dirac sea) - unoccupied state of electrons, which can absorb "G" strain-(tachyon) energy.

The closed circular circuit of the "transistorized G-Power Generator consists of three identical, equally spaced transistors, plus three capacitors from the unit. The input signal is amplified in the first stage and successively amplified in the second and third stages. Since the amplification can continue, the name "endless amplifier" became appropriate.

Of significant importance to the free energy field is Prof. Seike's educational model of a Kleinean Bottle, which was built to demonstrate the existance of tachyons.

In some recent tests, the "G" labs have succeeded in reducing the weight of a Mobius test ring to 2/3 Gravity, or essentially an approximate 1/3 weight loss, but the test parameters have not been disclosed. Prof. Seike maintains that because of these above tests, we can now believe that tachyons are present throughout "G" space.



a)Professor Sinichi Seike's Units

Loss of Weight, Energy Density of "G" Field

Stress energy of gravitation of

$$W = \frac{g}{8k},$$

is contained in unit volume of the zeroth hyper surface (Ordinary Physical Space) in Riemannean space, near a planet

It particularly reduces to

$$-5.4 \times 10 \text{ ergs/cm}$$

upon the surface of the Earth since

$$g = 980 \text{ cm/scc}$$

which is about identical with stress one $(-\frac{E}{8k})$ of electric field of:

$$E = 8.8 \times 10 \text{ V/cm},$$

and is about ten thousand times ordinary stress energy of magnetization.

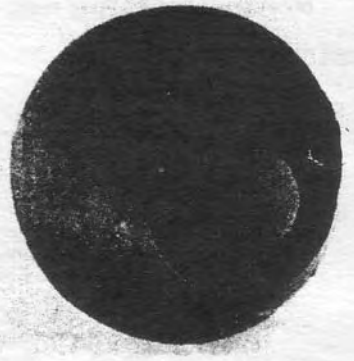
This G stress is ubiquitous, and is more general that than that of Nuclear Fusion.

MOEBIUS WOUND

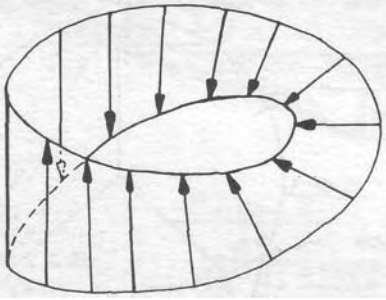
We shall firstly translate Moebius Band into electric device. The following picture shows Moebius wound. We shall secondly make a torus of Moebius wound, which forms a Klein Bottle, next picture.

Loss of G

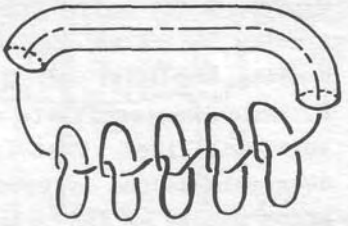
We shall feed electric current to Moebius Coil as in the following Fig. Then, Klein Bottle (torus coil) loses weight as on the following table. Experimental specifications are as



Reversal of vector upon Moebius Ring



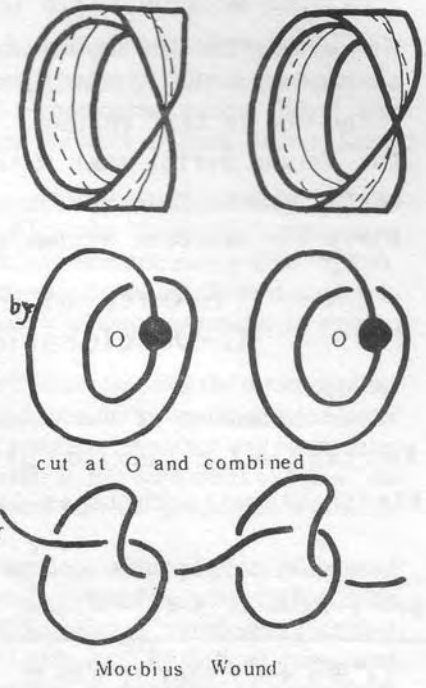
Torus of Moebius Wound



Ampere (DC)	Grams
2	− 0.059
3	− 0.123
4	− 0.169
5	− 0.213
6	− 0.291

follows / torus coil / 17 turns of Moebius wound // own weight of the coil / about 30 gr // power supply / regulated (NPS 151D / Dendy) // Balaner / Ex 200N (200 gr Max and resolution of 0.001 gr) (digital).

If we feed about 620 ampere by superconduction, loss of g exceeds the own weight, leviting.



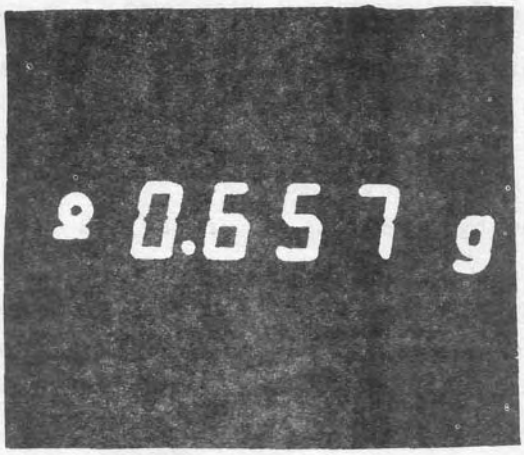
Return of History

As tachyon is super signal, it catches past signal. Then, time reverses. The system returns a history (falling path by g), being repelled by g and attaining loss of g.

That is to say, we find that tachyon upon the first hyper seerface goes out onto the zeroth (physical space).

For example, the following photo shows − 0.657 gr of loss. The greater the current, the more the loss.

It attains − 2.18 gr as the next photo shows when we feed 60A DC to a Moebius coil of 3 turns.



Falling mass attains /

$$s = -\frac{g}{2}(2)^2 = -1.960\ cm$$

at /

$$t = 2 \text{ second},$$

while does

$$s = -1.960 + \frac{g}{2} \times 1^2 = -1,470\ cm \quad \text{at} \quad t = 3$$

after time reversal of /

$$t = 2 \text{ second}.$$

Tachyon of 2c attains

$$\ell = 20c$$

at /

$$t = 10 \text{ second}$$

while signal does

$$\ell = 10c.$$

That tachyon catches a signal of /

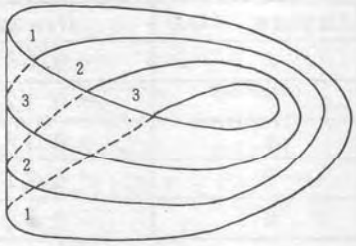
$$t = -10 \text{ second},$$

resulting in time reversal of this system.

Mass is repelled by g, resulting in loss of weight.

Japan's "G" Laboratory - Prof. Shinichi Seike:

Cutting Moebius Strip into 3, we label 1, 2 and 3. The 1 continues onto the 3, the 2 onto itself and the 3 onto the 1. As shown in the following figure, we have 2 strips.



The one is half another. Wave with the velocity of c is on the longer strip, that with the velocity of 2c cannot but be on the short. This reason is why tachyon flows in Moebius Strip (or Moebius wound coil).

Growth of State Momentum under G-Deceleration

Four momentum of the atoms of **Bariun Strontium Titanate or Ferroxplana** (or Ferrite) grows under circularly polarized electromagnetic field of (4-8), in recourse to (5-4) such that

$$= \frac{mca\left[\,2d^2\cos d\tau + (a^2-d^2)\,\mathrm{ch}a\tau\,\right]}{(a^2+b^2+d^2)\,\mathrm{ch}a\tau - b^2\cos d\tau} = \frac{mca\left[(a^2-d^2) + 2d^2\cos d\tau\,\mathrm{sech}\,a\tau\,\right]}{(a^2+b^2+d^2) - b^2\cos d\tau\,\mathrm{sech}\,a\tau}$$

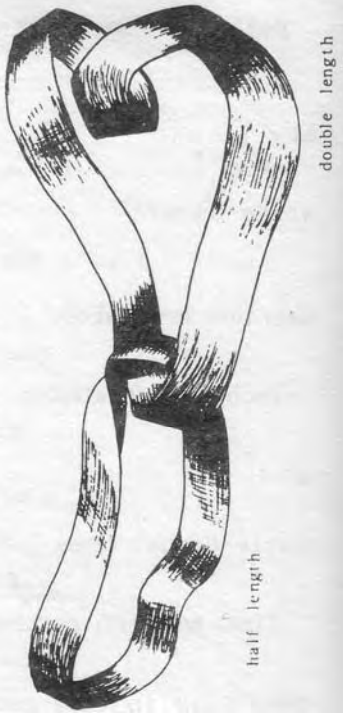
$$\rightarrow \frac{a^2-d^2}{a^2+b^2+d^2} \times mg \;(\tau \rightarrow \infty), \qquad \frac{dp^3}{dt} = \frac{mc\,\dfrac{dp^3}{d\tau}}{mc\,\dfrac{dt}{d\tau}} = \frac{mc\,\dfrac{dp^3}{d\tau}}{Q(\tau)}$$

which is invariant under positive value of Q(o). We take Q(o) to be positive since negative Q(o) furnishes **negative growth of total energy** and, therefore, provokes pair annihilation with ambient atmosphere and it becomes dangerous. The frequency condition is preseribed by

$$\alpha H_0 + \Omega < 0, \qquad (8\text{-}27)$$

in which α, H_0 and Ω are **coupling constant, vertical magnetic field** (static) and **rotation frequency of electric field** (of Nuclear Electric Resonance), respectively. They are stated of in the fifth chapter. **Resultant state four momentum** of Barium Strontium Titanate and Ferroxplana (or Ferrite) can be described by (5-1), in which the growth of the third component of **resultant state four momentum** is determined by

$$\frac{dP^3}{dt} \rightarrow \frac{a^2-d^2}{a^2+b^2+d^2} \cdot \mu g \qquad (\tau \rightarrow \infty)$$



We cut Moebius Band into 3.

IV. VIKTOR SCHAUBERGER (Austria) (1885-1958)

The scientific work of Viktor Schauberger has to rank him as one of the greatest natural scientists of all time, due to his monumental efforts to understanding and applying water flcw/,its quality and the concept of "going with the flow of nature"!

His work ranged all the way from improving water quality agricultural methods, hydroturbines and prime movers, to electric power generators and anti-gravity flight vehicles, and yet he is never mentioned in traditional physics books which is significant commentary on the state of our "so-called advanced technological society today! Our "advanced" technology is at the level of little children playing in sand boxes, and the work of Tesla, Moray, Searl, Schauberger and Newman have all proven this to be true!!

Although Viktor Schauberger's work covered a wide range, only his contributions to the alternate energy field will be described in this section. Schauberger's energy work centered on his theory of utilizing "implosion" rather than conventional "explosion" in our prime movers, and the significance of concentric and excentric energy flow "spiralling" in connection with dipolarity. He vigorously disagreed with our current explosion/combustion technology and demonstrated that implosion and concentric spiral flowing were the way that nature effectively transferred energy, and was able to prove it to be so!

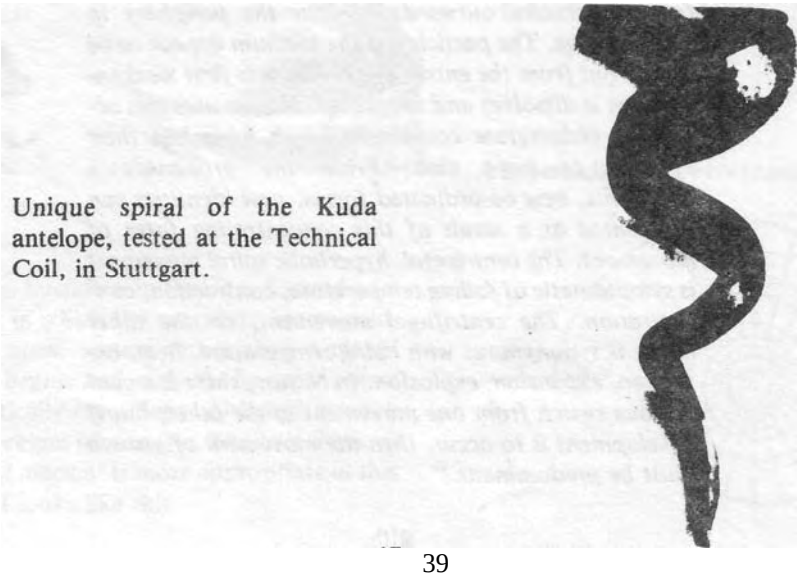
Of major importance is his development of the amazing "implosion generator" which featured the direct application of his concentric spiralling water flow which attained "negative friction" and thus self-propulsion in the lower portion of his hyperbolic tubing configuration which was the key portion of the generator. Another way to consider "negative friction' in the lower tubing zone is that a point is reached where the water in this zone starts to "pull" on the water volume in the upper tubing zone of the spiral tubing, so that it is easy to see how self-propulsion is possible under this condition.

The type of hyperbolic spiral is evident in nature by the honors of the Kuda antelope which presents this special spiral configuration with a uniformly diminishing cross-sectional area, which tends to increase the water flow velocity uniformly within the spiral tubing. The major problem with the implimentation of Schauberger's implosion generator techniques has been the difficulty in faithfuly reproducing this hyperbolic spiral path, with its difficult compound curves and diminishing cross-sectional area, as illustrated. Several attempts have been made abroad to successfully duplicate Schauberger's original implosion generator, but there are no reports of operating units or test performance data to date.

A practical implosion generator can consist of utilizing two opposite hyperbolic spiral tubing sets on a horizontal axis and secured to a central vertical, hollow drive shaft. The input end of the spiral tubes descend into a water reservior within a sealed water tank, as illustrated. A motor drives the vertical shaft through a one-way clutch unit so that de-coupling takes place when the rotor/tubing assembly is at critical speed where self-propulsion occurs, and thus a load can be driven by such a self-propelled arrangement.

Schauberger's invention of the "suction spiral" and the "suction turbine," is based on the same principle as the twisting action of rivers, which is caused by the movement and rotation of the earth. In the river, vacuums are formed, creating a negative pressure and thus suction pockets are evident. Schauberger maintained that centripetal, hyperbolic spiral movement is symptomatic of falling temperature, contraction and concentration. The centrifugal movement, on the other hand, is synomymous with rising temperature, heat, expansion and explosion.

By ignoring the pioneering science of Viktor Schauberger, present-day establishment science behaves as if collective scientific stupidity has somehow become a virtue.

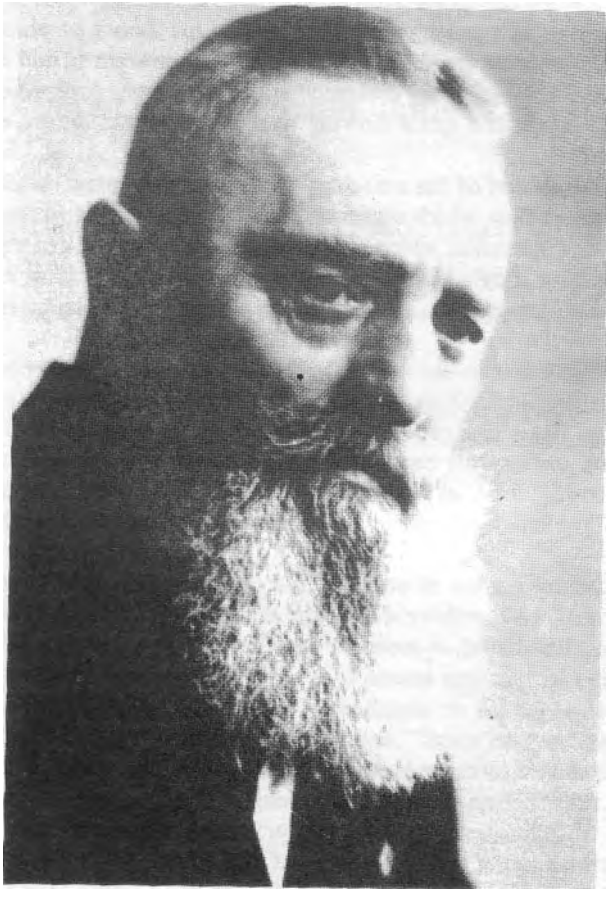


Unique spiral of the Kuda antelope, tested at the Technical Coil, in Stuttgart.

WHO WAS VIKTOR SCHAUBERGER?

They called me deranged. The hope is that they are right. It is of no greater or lesser import for another fool to wander the earth. But if I am right and science is wrong - then may the Lord God have mercy on mankind.

Viktor Schauberger



The destructive and dissolving form of movement is centrifugal in Nature—it forces the moving medium from the centre outwards towards the periphery in straight lines. The particles of the medium appear to be forced out from the entre. The medium is first weakened, then it dissolves and breaks up. Nature uses this action to disintegrate complexes which have lost their vivacity or have died. From the broken-down fragments, new co-ordinated forms, new identities can be created as a result of this concentrating form of movement. The centripetal, hyperbolic spiral movement is symptomatic of falling temperature, contraction, concentration. The centrifugal movement, on the other hand, is synonymous with rising temperature, heat, extension, expansion, explosion. In Nature, there is a continuous switch from one movement to the other; but if development is to occur, then the movement of growth must be predominant."

IV. VIKTOR SCHAUBERGER PROJECTS

a) Institute of Ecological Technology (IET), Stockholm, Sweden (Box 9, S-942000 Elvsbyn, Sweden),
Institute of Ecological Techniques (DIFOT), Copenhagen, Denmark (Ellebuen 21, DK-2950 Vedbek, Denmark).

Two of the Scandinavian countries, Sweden and Denmark have formed development groups which are interested in the pioneering work of Viktor Schauberger and the prospects for reintroducing his advantageous environmental technology.

Towards the end of the 1950's, a Swedish science group was formed to carry out environmental improvement work and went through a series of evolutions to become the Institute for Ecological Technology,-established in 1979. Since that time their enrironmental improvement project effort has been centered on the past, historical work of Viktor Schauberger because of the tangible value of his series of environmental projects. Schauberger has constantly maintained that all of our technology should be "going with the flow of nature" rather than attempting to force actions which are contrary to natural motions.

Because of the growing problems of water pollution in all the industralized nations much of the current efforts are aimed at the various possible solutions to this problem, based on Viktor Schauberger's findings. In regard to clearing up polluted rivers, Viktor Schauberger maintained that by the simple addition of specially-shaped flutes carefully placed within the river bed, a beneficial spiralling flow would allow the rivers to clean themselves, naturally. Although he was usually rebuffed by the establishment in attempting to introduce this method, thankfully, his work is now being continued today by these far-sighted European ecological groups.

The development of the water-cleansing device mentioned in Proceedings from the First International Symnposium on Non-conventional Energy Technology held in Toronto, 1981, page 91 and shown in an early state of development has successfully been brought to an end in the Danish Institute of Ecological Techniques. It shall be put into manufacture in spring 1987 and will cost appr. US $100. Especially tests with seed-growing in the purified, cleansed and vitalized water have given surprising results. The device was originally given the research group in the final form from a medium claiming that UFO-intelligences had inspired her!

b) Biotechnical Academy - Walter Schauberger (Son of Viktor) Austria

The Biotechnical Academy was established, with direction by Walter Schauberger, with the purpose of furthering the pioneering work of Viktor Schauberger in both the theoretical and applied areas of the technology.

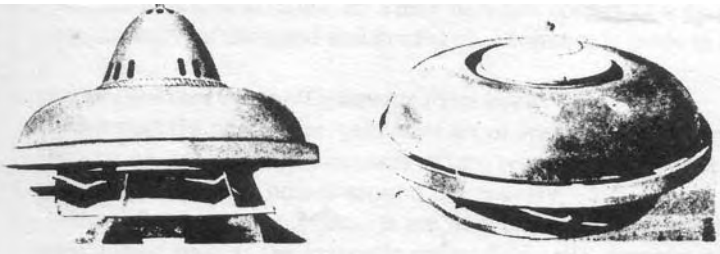
The scientific team, under Walter Schauberger's direction, are working to match hardware environmental models with the corresponding attributes and motions of nature. They are attempting to validate each and every one of Viktor Schauberger's ecological findings and models to prove that our present technology direction is basically wrong!

c) Energy Unlimited Albuquerque, New Mexico

Walter P. Baumgartner, the director of Energy Unlimited is an advocate of Viktor Schauberger's technology and a believer in both natural vortex motion and implosion techniques. Energy Unlimited is now involved in developing an implosion motor to show the natural principle of vortex motion as a key to motion, propulsion and power.

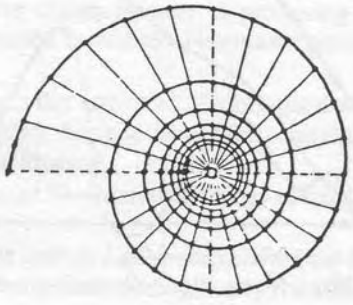
Designing, developing and testing are in progress at the present by an E.U. research team.

In the case of the Implosion Motor there is no heat barrier, no sound barrier, because with friction at a minimum, no heat is generated. On the contrary, due to the sprial contraction of the water flow, there is cooling and this creates a vaccum which increases the suction pull.



Schauberger's models of 'flying saucers'.

A hyperbolic spiral with constantly changing curvature.



A hyperbolic spiral is non-Euclidian in that it is formed of a continuous changing curve, in which the curvature becomes increasingly acute. It is an 'open' system rather than a closed system like a circle, which begins and ends at the same point, and which is therefore identically repetitious. Although existing technical terminology is at present inadequate, I believe the term 'hyperbolic centripetal spiral motion' is more appropriate in this context. A hyperbolic spiral looks like this:

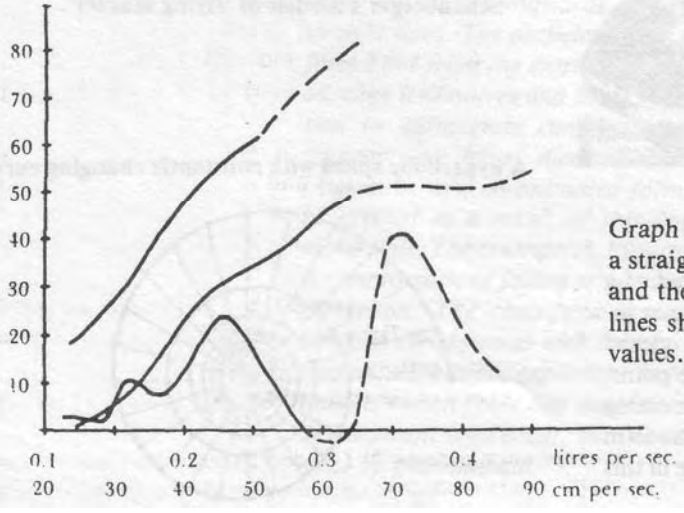
Death Technology or Biotechnology?

How is this relevant to our present technology? Schauberger states as a central theme of his teaching that the whole of our modern technology is built upon the idea of breaking down, through the medium of heat, combustion, explosion, expansion. It occurred to Schauberger that the poor results found in modern technology come from Nature's resistance to man's single-minded pursuit of destruction and decomposiion. The overheating problem, air resistance, temperature and sound barriers, are evidence that man is on the wrong path.

Viktor Schaugerger with a model of his domestic power station (1955)

!!What goes around,-comes around again!!!

University of LUND, Sweden, A very large energy converter by inventor Arno Werner. Opeational details are unknown at this time.



Graph of the tests in Stuttgart. The upper curve shows friction in a straight glass pipe; the middle curve, in a straight copper pipe; and the bottom curve, the spiral-wound copper pipe. The solid lines show measured value, and the broken lines the estimated values.

V. JOSEPH NEWMAN

The recent scientific work of Joseph Newman has to be considered in the "Pathfinder" category since he has made not one, but a number of significant new contributions to advanced electrical technology. While he has now received considerable publicity for his "motor-/thing," during early 1983 and later, the various theories and concept have been developed over the past fifteen years prior to these recent disclosures.

Although the descriptions in the press refer to his unit as a "motor," the most desirable embodiment of his hardware is that of a low-speed motor-generator, as disclosed in his South African patent. In this desirable version of his motor/generator, the first key feature noted is the large field coil length and number of turns utilized. As Newman stated:-It is generally unrecognized by science that conventional copper conductors produce a useful magnetic field, and that the strength of this magnetic field within a field coil is directly proportional to the length/number of turns in these field coils.

The second major contribution to electrical technology is the discovery by Newman that we should be considering other types of metallic conductors for their magnetic field strength levels, rather than by their conductivity levels alone, in regard to their use in motors and generators. This "Newman effect" has already lead to the discovery of plated types copper conductors such as tinned-copper buss wire which produce up to three times the magnetic field strengths, over plain copper conductors.

Another major feature of his "pathfinding" motor/generator design is the introduction of an all-magnetic rotor as the rotor component which provides a very high level magnetic field interchange with the field coil, without any ferrous drag present as in conventional electric motors/generators. Of significant importance to the generator portion of his technology is the application of a second identical, or nearly identical field coil which is inductively-coupled with the first, motor section field coil. It becomes readily apparent that this second field coil in close parallel proximity greatly benefits from being inductively-coupled to the first, motor field coil via the "Newman effect" or increased magnetic field level transferred from field coil to field coil.

Obviously, such an astute combination of beneficial electrical functions can readily produce an "over-unity" output, which the U. S. Patent Office doesn't presently recognize as being possible. The worst point about this present situation with the Patent Office is that they have elected to "stonewall" the Newman patent application rather than consider it on its scientific merits, which are in numerous forms.

As if his motor/generator,-operating on Faraday's principle is not enough, Joseph Newman has introduced two "solid state,"-or Maxwell Second Equation principle units which are noteworthy in their own right. The first of these units is known as the Gas Embodiment Unit, which consists of a series of permanent magnets which react with a gas within a sealed chamber environment. The gas within the inner sealed chamber reacts with the permanent magnets to produce an E.M.F. Since the gas contains an extremely large number of particles which are in continuous, random motion, and these are exposed to a varying magnetic field strength as they are in motion, and E.M.F. is produced, in compliance with Maxwell's Second Equation principles, although the expected E.M.F. output will be quite small.

The second of the "solid state devices is known as the Static Emobidment which consists of a discrete combination of a horsewhoe type of permanent magnet and matched coil unit which interact to produce a small E.M.F. when a correct alignment is obtained between them. This small device also apparently complies with Maxwell's Second Equation pinciples, although the expected E.M.F. output will be quite small.

Joseph Newman has also made enlightening contributions towards the understanding of gyroscopic mechanical action within magnetic fields, ie: These particles consist of a gyroscopic mechanical action which can be operationally (mechanically) understood and predicted. Reference is made to his book: "The Energy Machine of Joseph Newman."

a) The Newman Motor/Generator Principles

Although the new motor/generator art of Joseph Newman has now been proven valid and workable, a considerable amount of practical development effort remains to be done before a practical and marketable machine will be available for private homes around the country.

Since all the operating features are now basically established for Newman's machine, it remains for the individual components such as the magnetic rotor, field coils, commutator to be reduced in size and weight, while the E.M.F. output remains close to the original level. A number of companies have shown interest in producing Newman's motor/generator, but before any of these are selected, they must be prepared to convert Newman's present art to a practical and producable version, as described above.

The present position of the Newman art reminds one of Chester Carlson's dry copier art, before the deal was made with Battelle Development Corp., to produce a marketable end product. After Battelle successfully developed a practical dry copier, XEROX was formed, and the rest of the success story is history!

There are some obvious design improvements which can convert the present Newman technology toward a practical end product, which are as follows:

l)Replacement of the present ceramic (Ba-Fe) permanent magnets with the new N.I.B.-(neodynium-iron-boron) permanent magnets to reduce both the size and weight of the magnetic rotor, while maintaining nearly the same magnetic field level for the rotor.

2) The evolution of a new type of combined metallic conductor, which is either lighter (aluminum)/or produces a much higher magnetic field value than conventional copper conductors.
3) The use of TWO inductively-coupled secondary coils, on either side of the main, motor field coil, so that TWICE the magnetic field strength is covnerted into a nearly DOUBLED E.M.F. to drive a larger load!! Reference is made to FIG. 6, of the Newman South African Patent.

A further close study of the various component relationship will probably reveal some other design improvements which can be adopted to bring this excellent, basic motor/generator art closer to practical realization.

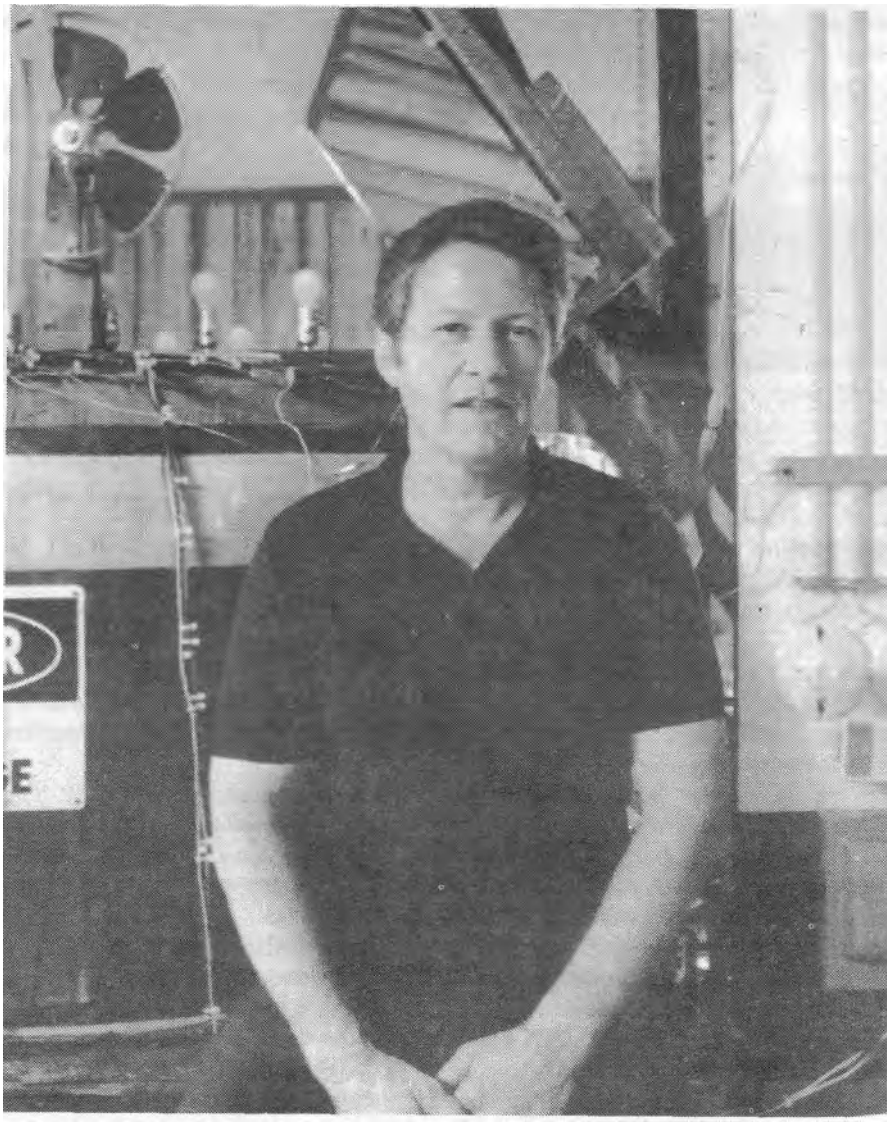
b) Electrodyne Corporation - Electromagnetic R & D for FIE Units

The Electrodyne Corporation has been organized to carry out R & D effort in several design areas including dynamic Faraday systems, and solid state Maxwell-type devices.

One of the projects is to design and build a conventional electromagnetic unit, generally similar to Dr. Kenyon's generator and combine this with a Searl effect section, as a hybrid system.

Because of their basic belief in the value of Joseph Newman's new motor/generator art, these researchers are now actively seeking to improve combined metallic conductors, as a solution to Newman's design improvement needs, as per item 2, above.

The project work in this area, to date, has already found that off-the-shelf -tinned-copper buss conductor wire produces approximately three times the magnetic field level compared to plain copper conductor wire.



MAGNETIC FIELD EVALUATION TESTS
THREE TYPES OF STRANDED CONDUCTORS May 26,1985

1) Top coil of ferrous (steel) stranded picture wire, four (4) turns for an approximate length of fifteen (15) feet.

2) Central coil of copper,stranded wire,-about fifty (50) turns, for a total length of 260 running feet.

3) Lower coil of aluminum ,stranded wire,-about twenty-two (22) turns total length of 116 running feet

4) Replaced top coil of tinned copper solid conductor, 24 Gauge,-50 Ft.

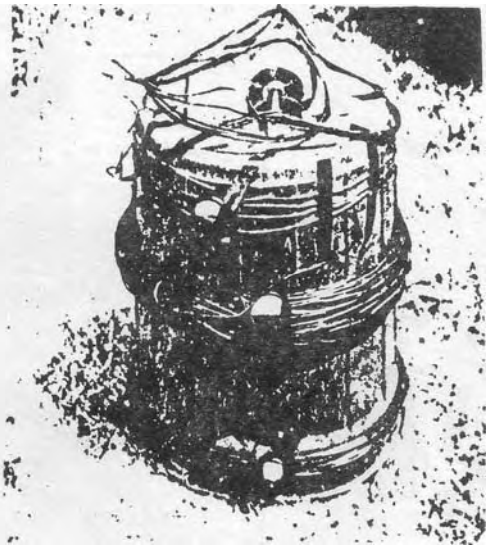
These conductor wire sizes and lengths were used from available stock on hand,which accounts for the random lengths. Although the wire sizes and lengths are not equal and not standard, the test results are never the less useful when general comparisons and interpolations are made .

Input electrical source:
One 12 volt automotive battery.-

Load:- One small 12 VDC Permanent Magnet Motor

Magnetic Test Devices:-
Two Annis 5-0-5 Magnetometers
One Annis ·20-0-20 Medium Range Magnetometer

One commom coil form,
One ten gallon trash pail, plastic,as shown.



TEST RESULTS

1) The magnetic field strength of the copper coil was = 2-1/2 Gauss.

2) The magnetic field strength of the aluminum coil was: 1 Gauss.

3) The magnetic field strength of the ferrous coil was:- 1 Gauss.

4) The magnetic field strength of the tinner/copper coil-1-1/2 Gauss.

While these magnetic field strengths are very low, so are the number of coil turns,and total wire length,as noted. An important point established by these tests is that the magnetic field rating is directly proportional to the wire length, as indicated.

TEST CONCLUSIONS

These test results prove that Joseph Newman's contention that a magnetic field is produced around an electrical conductor carrying a small E.M.F. is correct, in all its implications.

DESCRIPTION OF SMALLER UNIT

The following is a smaller unit (see photograph 15-C2 below) composed of 30-guage, insulated, copper wire weighing approximately 145 lbs. (atoms) and having a rotating magnet of 14 lbs. (atoms). This portable unit, with very little current input, clearly demonstates an energy output which is greater than the external energy input. With 300 volts input of pressure, only 1 1/2 milliamps of current (volume of gyroscopic particles) went into the copper coil (of atoms), which is less than 1/2 watt input for an energy output in excess of 10 watts.

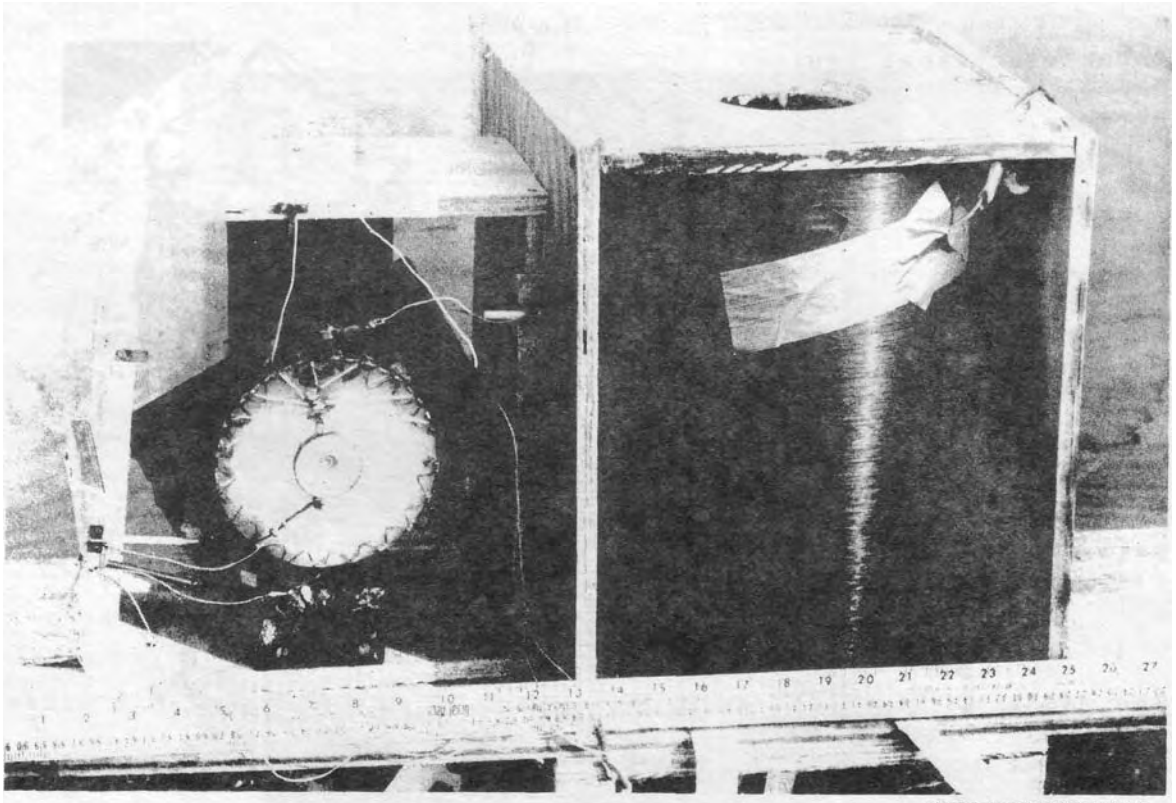
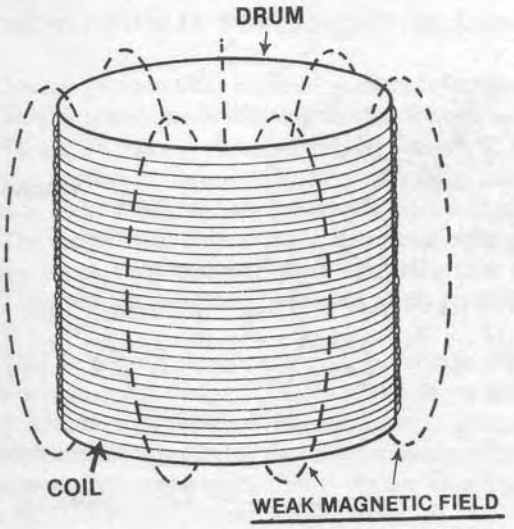
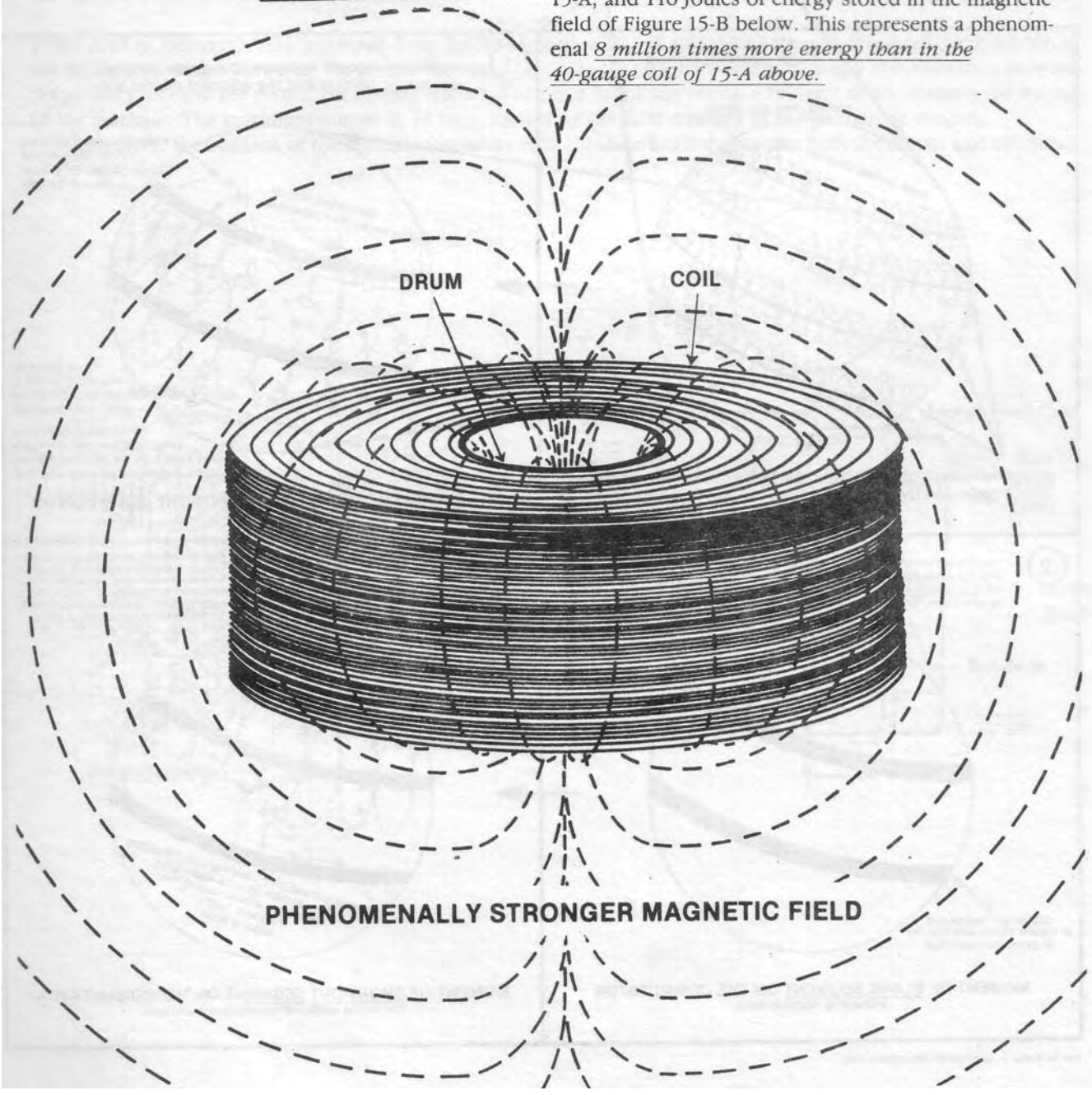


PHOTO BY MATT ANDERSON



Now, conduct another test with 5-gauge copper wire which has a resistance of .3133 Ohms for 1000 feet. However, to equal the same resistance as in 15-A above, one must now use 3,348,000 feet of 5-gauge wire with a massive, total weight (of atoms composed of gyroscopic particles moving and traveling at the speed of light, *i.e.*, the mechanical essence of Einstein's Equation $E = MC^2$) of 335,469.6 lbs. or 16.77 tons. Such wire is turned into a coil with a 10-foot interior diameter and 8.32-foot height. This structure would have approximately a phenomenal 90,000 turns of 5-gauge (copper atoms). If 100 volts were now connected to coil 15-B (see drawing below), then a current flow of approximately 95MA could occur with a total power input of 9.5 watts and a resulting, phenomenally larger magnetic field of 23.7 Gauss, or 1,905 times larger for coil 15-B than for coil 15-A, and 116 Joules of energy stored in the magnetic field of Figure 15-B below. This represents a phenomenal *8 million times more energy than in the 40-gauge coil of 15-A above.*



INTERACTION OF COIL STRUCTURE AND ROTATING, CYLINDRICAL, PERMANENT MAGNET

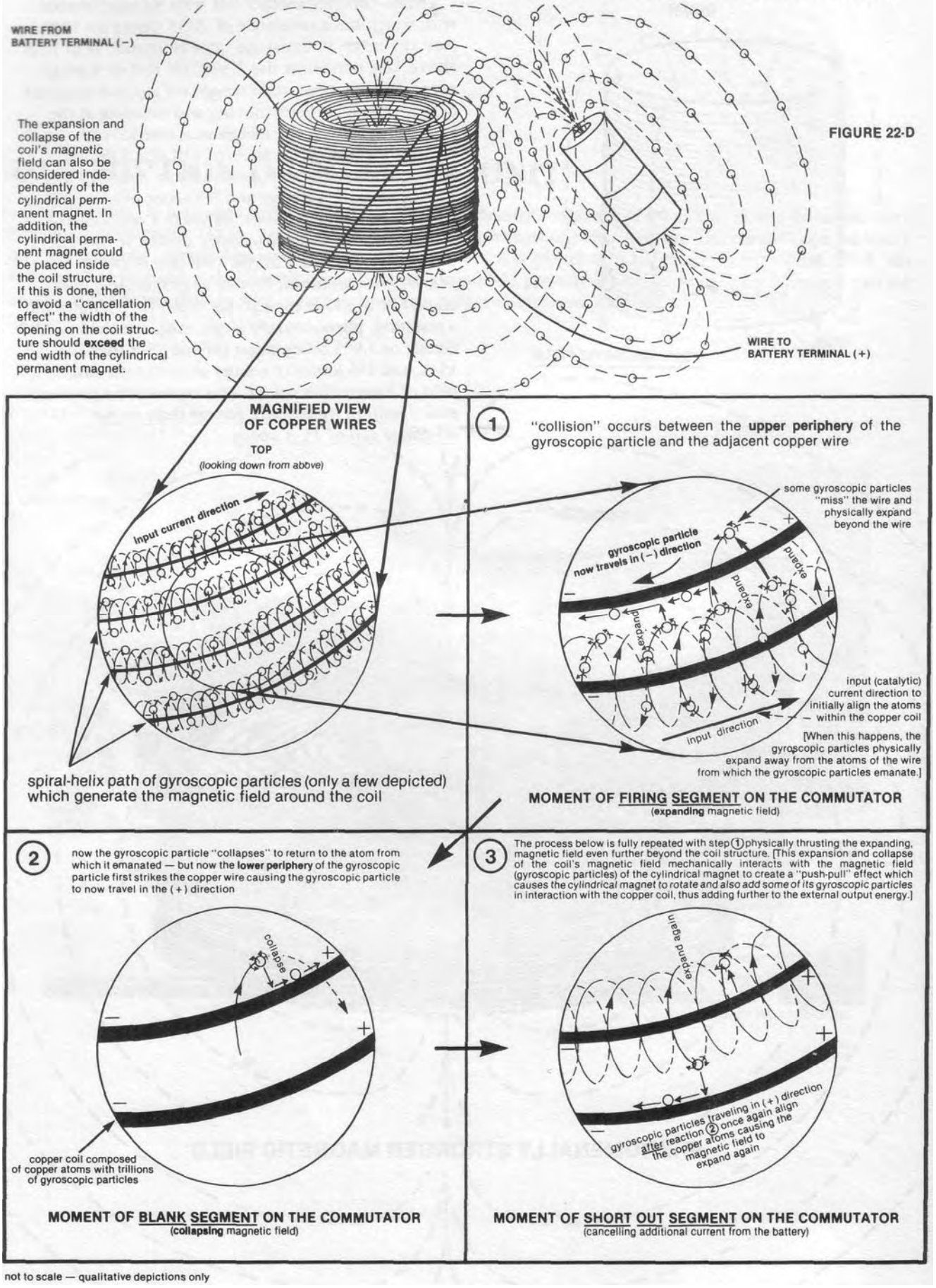


FIGURE 22-D

not to scale — qualitative depictions only

JOSEPH NEWMAN'S TECHNOLOGY - Multi Field Coil Concept

Joseph Newman has something more to teach us with Figure 6, below, of his South African Patent!!

Simply stated, he is showing us that we can use our input E.M.F. and apply it too!!

To clarify this above statement, Newman's S. A. patent art discloses that the initial E.M.F. can be used to run the motor portion of his unit (300) in the drawing, below, while the electrical field effect increases the magnetic field of the motor coils, (303), as was previously discussed and illustrated.

The motor field coils (305) in turn, can be inductively coupled to one, two, or as an optimum of three induction coils, which then become E.M.F. generators, as (306) which will operate with no back-EMF involved.

The multiple induction field coils (306) are illustrated below in schematic form.

This is a very significant and momentus development in electrical engineering and specifically in electrical motor/generator design, which has not as yet had its full impact in the o/u/o field.

A minimum of threefold electrical output over unity ratio can easily be expected with the maximum ratio yet to be determined. It is projected that the maximum output to input ratio could be as high as twenty-five to one, by the use of optimum field coil design, that is the use of at least three secondary field coils, as indicated, and the idealizing of all the functional components of the unit.

From Bruney Research:- Any increased drain on the secondary coil windings will cause an increased current drain in the primary windings. However, the greater the current drain in the primary coils, the stronger the interaction between the primary coil and the permanent magnet (rotor). The result is that the increased current drain increases the output of the machine. The maximum output is, in turn, limited by the field strength of the permanent magnets.

In summary, the addition of the multiple secondary coils should effectively increase both the output and efficiency of the machine.

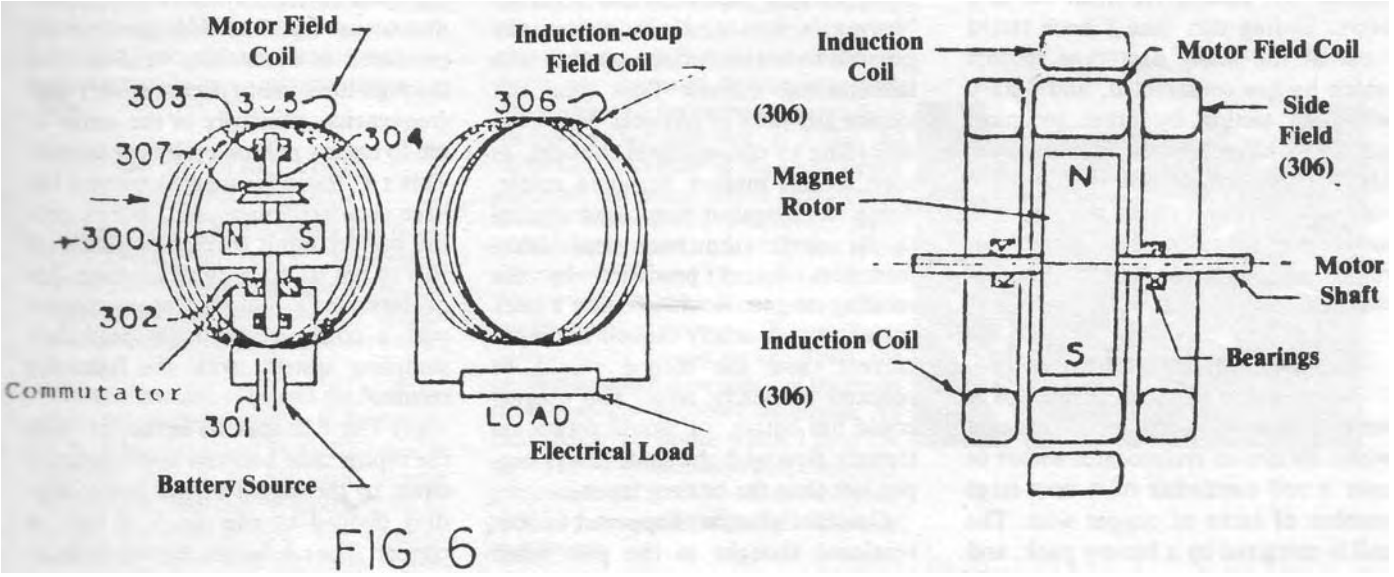


FIG 6

Statement of Roger Hastings, Ph.D.
Before the Subcommittee on
Energy, Nuclear Proliferation, and Government Processes
Dated July 30,1986

THE NEWMAN CONTROVERSY

My name is Roger Hastings. Thank you for the opportunity to address this Committee. Before I discuss Dr. Newman's device, let me tell you something about my background, how long I've known Joe Newman, and then I'll make my observations about Newman's device, and repeat my criticisms of the recent N.S.B. tests of Newman's device.

I. BACKGROUND

My education, through the Ph.D., is in physics. I have served as a Professor of physics for four years, and for the past five years I have worked as a physicist for the Sperry Corporation in St. Paul, Minnesota. My current title is Senior Staff Scientist, and I am the manager of Sperry's Superconductive Electronics Technology Center. I have known Mr. Joseph Newman for five years. During this time I have tested most of the many prototype motors which he has constructed, and I have witnessed testing by other technical people. I have become familiar with Mr. Newman's theories and attitudes. I represent myself in this matter, and have never represented Sperry Corp. regarding Mr. Newman or his machine.

II. NEWMAN'S DEVICE

Newman's motors all consist of a very powerful permanent- magnet which rotates or reciprocates within or near a coil consisting of a very large number of turns of copper wire. The coil is energized by a battery pack, and the magnetic field produced by the coil provides the torque or force required to rotate or reciprocate the permanent magnet. A mechanical commutator reverses the direction of current flow through the coil each half cycle, and in some models also chops the current input between current reversals. Technically, the motor may be described as a two pole, single phase, permanent magnet armature, d.c. motor. The difference between Newman's design and the prior art is one of scale: very large magnet and very large coil. Newman's large motors contain conventional ceramic magnets weighing up to 700 pounds. His smaller motors use powerful rare earth magnets. The coils typically are wound with more than 100,000 turns of copper wire. Since the coil resistance is therefore high, the machines operate on battery voltage which is sufficiently high (hundreds to thousands of volts).

The torque applied to the magnet in these motors is proportional to the product of the strength of the magnet, the number of turns of copper wire, and the current flowing through the wire. In Newman's machines extremely large torques can be developed with very small current inputs. If we scale up Newman's motor, it is theoretically possible to obtain infinite torques with infinitesimal current flow (and not violate any laws of physics). However, according to conventional thought, as soon as this magnet began to rotate, doing work against some load applied to its shaft, the back emf (electromotive force) produced by the rotating magnet would produce a back current which nearly cancels the input current, and the torque would be reduced to nearly zero. The magnet could not rotate, or would rotate extremely slow with the shaft power output less than the battery input.

Consider what has happened to conventional thought in the past when people have experimented with the limits of very high speeds (relativity), very small dimensions (quantum mechanics), very low temperatures (superconductivity and superfluidity). Newman's motors probe the limits of very large torque with very small current input. And they do rotate at relatively high rates. For example, witness Newman's latest prototype (on demonstration following this hearing today in an auditorium in this building), which runs on 0.0008 amps at 3000 volts and turns a 16-inch fan blade at more than 500 r.p.m. How much torque can this motor produce? Try to stop the motor by holding the two-inch daimeter shaft. This will not be possible for a normal human, although the motor will never draw more than 0.003 amps or nine watts. This motor is a scale model of a motor which Newman intends to build to power an automobile.

Newman's motors are unconventional in other ways. One notices the flourescent tubes which are placed across the motor coil. These tubes are lit by the coil's collapsing magnetic field occuring when the battery voltage is switched. They are used to protect the mechanical switch from damage due to arcing. The additional power produced in these tubes (and flowing through the system) occurs at very high frequencies, prim'arily in the range of ten to twenty million cycles per second. This r.f. (ratio frequency) current has been accurately measured, and exceeds the battery input current by factor of five to ten in the various motors. One of Newman's motors was monitored with a computerized high-speed data sampling system, with the following results:

(1) The r.f. appears in bursts, with the repeat time between approximately equal to the length of the motor winding divided by the speed of light in copper. The r.f. bursts showed little attenuation during their travel through the coil, maintaining their shape and amplitude.

(2) The r.f. current and voltage were in phase, representing the real power.

(3) The r.f. current and voltage wave-forms were offset from ground, indicating a net d.c. component.

net d.c. component.

(4) The net r.f. power at the battery pack represented a negative power which exceeded the d.c. input power from the batteries.

The last statement may explain why Newman has been able to demonstrate the charging of dry cell batteries placed in his system. Battery failure has occurred through internal, shorts which develop within the batteries rather than by depletion of the energy stored within the batteries. When you witness the demonstration of Newman's latest prototype, if you attend the demonstration following his hearing, bear in mind that the batteries will last many times longer than expected for a drain of 0.0008 amps. A prominent battery company is working with Newman to develop batteries which will stand up to the r.f. power levels, and perhaps last even longer.

Newman's motor design is based on his theory of gyroscopic particles which he explains in his book "The Energy Machine of Joseph Newman." Full utilization of his machine will require a detailed mathematical representation of the phenomena based on a thorough understanding of the atomic processes at work. This will require a parallel program of experimentation using the finest resources available. Application programs have already been conceived (for example, the car motor), and will require prototyping and manufacturing efforts. Newman should be immediately awarded a patent and become recognized in the scientific community for his accomplishments to date.

III. AN EVALUATION OF N.B.S. TESTING

I have been asked whether the recent N.B.S. tests alter the opinions I've expressed before and I'm repeating here today. The recent N.B.S. tests don't alter my opinion because N.B.S. failed to test Newman's device.

I have read and evaluated the Newman motor test results reported by R. E. Hebner, G. N. Stenbakken, and D. L. Hillhouse in National Bureau of Standards Report #NBSIR 86-3405. [See "Report of Tests on Joseph Newman's Device," U.S. Dept. of Commerce, dated June 26, 1986, hereinafter referred to as "the NBS Rpt. at ____ ".]

A. N.B.S.'s Energy "Output" Measurements

While the reporters display fine credentials and demonstrate the use of precision equipment, they obviously did not test the Newman motor. Instead they measured the power consumed in resistors placed in parallel with the Newman motor, and called this power the motor output. [See NBS Rpt. at 7. Fig. 4. "Schematic Drawing of Newman device and input and output power measurements circuits," reproduced with comments plainly referring to the "Resistors" as such in the accompanying chart.]

In layman's terms, this is equivalent to stating that the output of an electric motor plugged into a wall socket is given by the power used by a lightbulb in the next room which is on the same circuit. The measurement of power consumed by these parallel resistors is clearly irrelevant to the efficiency of the Newman motor.

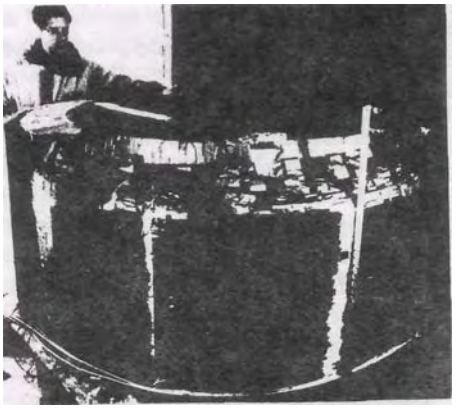
The actual input power to the Newman Motor (battery input minus power consumed by their resistors) is referred to in the report as "internal losses." No attempt was made to measure the mechanical output of the Newman motor. Nor was any measurement made of heat generated in the motor windings.

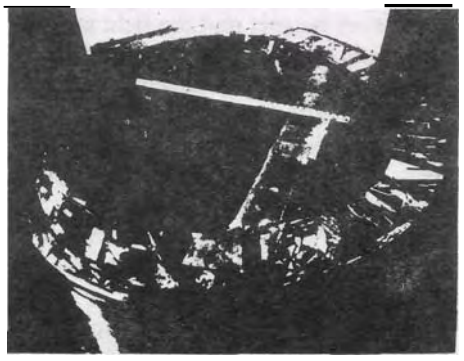
B. The Additional Energy N.B.S. Lost From The System

It has been demonstrated by myself and others that much of the excess energy generated in the Newman machine occurs at very high frequencies (in particular between 10 and 20 MHz). It has also been demonstrated that the high frequency current will flow to the ground if given the opportunity. If Newman's machine is grounded through a high resistance, heat will be produced in the resistpr which represents an additional motor output. In the N.B.S. testing, the Newman motor was connected directly to ground, thus eliminating the excess r.f. power from the system [See NBS Rpt. at 7 (Fig. 4.) "Schematic Drawing of Newman device and input and output power measurement circuits," reproduced with comments plainly referring to the "Ground" as such in the accompanying chart.] The report states that "the power flow in the device is primarily a low frequency phenomena." This result was guaranteed by the test set up. Again, the oscillographs shown on page 3 of the report show clean low frequency waveforms. All oscilloscope waveforms which I have observed on Newman motors which are properly connected, have by contrast been dominated by extremely large high frequency components.

C. Conclusion

In conclusion, the N.B.S. failed to measure the output of the Newman motor, and instead measured the output of parallel resistors. In addition, the primary r.f. energy generated by the machine was shunted to ground. Their measurements are therefore irrelevant to the actual functioning of the Newman device. These results reflect a total lack of communication between the N.B.S. and Newman or any other expert on Newman's technology. Considering the importance of Newman's machine and its potential applications, this waste of N.B.S. resources and misrepresentation of Newman's device is an insult to those seriously interested in the machine and to those who may benefit by its future applications.





Preliminary Analysis of Newman Machines

Abstract

The essential efficiency mechanism within Newman Machines are the motions of flux lines either perpendicular or opposite to the rotation direction of a permanent magnet. Traditional equal and opposite CEMF (counter electromotive force) losses are circumvented, and the permanent magnet is made to perform work via inductive interaction.

General Description

FIGURE 1 shows the basic components of a Newman Machine, consisting of a stationary conducting coil, a rotating permanent magnet, and a commutator which rotates with the magnet.

About 24-28 times per 360° of magnet rotation, the commutator alternately switches drive current from a battery to the coil, then disconnects the drive current and series-connects the coil to an electrical load. The switching takes place rapidly, as a spark jumps across the commutator gaps for each switching event. The commutator also reverses the direction of the drive current to the coil every 180° rotation.

The sequence of events within the device are:

1. Energy, in the form of electric current from a battery, is supplied to the coil. As a result, one would expect:

a. Part of the input energy is invested in a magnetic field which forms around the current flowing within the windings of the coil: and

b.Part of the input energy is invested in the rotation of the magnet, as a result of the interaction between the permanent magnet and the field around the coil.

2. Electric current from the battery to the coil ceases. The coil is immediately connected to a series electrical load. One result is that:

a. Part of the input energy, stored in the coil magnet field, is delivered through the electrical load as the magnetic field collapses.

If one considers only the induction action of flux lines rotating with the permanent magnet, one would expect that:

b. The remaining part of the input energy, invested in magnet rotation, induces a current in the coil, which gives rise to an equal and opposite magnetic field around the coil that directly opposes the rotation of the magnet.

The above results, however, do not reflect perpendicular or opposite motions of the permanent magnet flux lines relative to the coil windings. These flux motions are shown schematically in FIGURES 2-4.

In FIGURE 2, a permanent magnet, 1, is free to rotate around pivot 2, under the influence of a coil of wire, 3. In these figures, a single conductor of the coil is shown for simplicity, but in practice many windings are used. The permanent magnet's lines of flux are shown in FIGURE 1 by curved arrow-lines, 4. In FIGURE 1, no field is shown around winding 3, as no current is flowing in the winding.

In FIGURE 3, the magnet is shown during the first 90° of rotation, with a drive current flowing through the winding that generates a magnetic field around the winding, as shown by arrow-lines 5.

This winding field is of the same magnetic polarity as the magnet, and causes the magnet to rotate due to mutual magnetic repulsion. This mutual repulsion also causes the magnetic flux lines of the permanent magnet to be pushed inward and rotated forward of the magnet as shown. The forward displacement exists because the energy transfer between the drive current and the rotating magnet is impeded by the moment of inertia of the magnet. The inertial mass cannot respond to instantaneous drive current changes, so not all the electrical input energy is effectively transformed and stored as kinetic energy of rotation.Contrarily, the magnetic flux lines of the magnet are displaced instantly by instananeous changes of the same drive current, and therefore act as an energy storage means for that portion of the input energy which causes the deformation.

If the drive current to the coil suddenly ceases (as it does in Newman Machines), the magnetic flux lines of permanent magnet expand outward and rearward to their original shape, releasing the energy stored during their deformation.

The outward perpendicular expansion of the flux lines induces current in the winding as the flux lines cut across the conductors. The induced current is in a direction which magnetically opposes the advancing field of the permanent magnet; that is, the perpendicularly induced current is in the same direction as the original drive current.

In FIGURE 4, the magnet is shown during the second 90° of rotation, with a drive current as above passing through the winding.

In this quadrant, the winding field is opposite to the polarity of the permanent magnet, and causes the magnet to rotate by magnetic attraction. This mutual attraction causes the magnetic flux lines of the permanent magnet to be pulled outward and rotated forward of the magnet, as shown by arrow-lines 6. This stretching of the field again acts as an energy storage means for that portion of the input energy which causes the stretching.

If the drive current to the winding suddenly ceases (as in Newman Machines), the magnetic flux lines of the permanent magnet retract inward and rearward to their original shape, releasing the energy stored during their deformation.

The inward perpendicular retraction of the flux lines induces current in the winding as the flux lines cut across the conductors. The induced current is in a direction which magnetically attracts the receeding field of the permanent magnet; that is, the perpendicularly induced current is again, in the same direction as the original drive current.

The cycle is repeated for the third and fourth 90° quadrants of rotation, only with the drive current direction reversed.

The switching rate of the commutator can be chosen to function in concert with the inertia of the rotating magnet so that potential CEMF's which could be created by magnet rotation are eliminated. If the drive current ceases while the magnet is still accelerating (i.e., while the magnetic field is still deformed), the magnetic flux lines retract across the winding in a direction opposite to the direction of magnet rotation. The switching rate can be made rapid enough so that induced currents in the positive direction diminish as the magnet rotation increases, but (oppoisng) CEMFs in the winding are never induced.

Perpendicularly and oppositely induced currents only occur when the drive current to the winding ceases. Since the collapsing magnetic field around the winding (originally created by the drive current) also tends to induce a winding current in the same direction, the two induction effect simultaneously add together.

When the perpendicularly and oppositely induced currents flow in directions to drive the magnet rotation, a dynamic interaction between these currents and the permanent magnet occurs. The deformity of the magnetic field reduces as the magnet rotates. The reducing deformity induces currents in the winding which increase the rotation rate of the magnet. Increasing the magnet rotation rate reduces the deformity more rapidly, which increases the rate of induction of current into the winding, further accelerating the magnet, etc. During this progressively increasing interaction, the permanent magnet performs work as it induces the complimentary current in the winding. This performance of work by the magnet is similar to the work performed by a magnet when attracting a piece of iron, although the mechanism for attraction is different.

The mutual interaction tends to prolong the magnetic interaction times between the magnet and the winding until the drive current is again switched on at the beginning of the next pulse cycle. This prolonged and anomalously large current flow has been described in published tests of the Newman Machines.

If the electrical load resistance in series with the coil is reduced in value (that is, if the electrical load increases), the effects of the perpendicular and opposite inductions increase as more current is allowed to flow through the coil. This in turn increases the complex interaction between the coil and the magnet; increasing the electrical load increases the rotation speed of the magnet and decreases the amount of input current required to drive the electrical output load. These traits have also been noted in reports on the Newman Machine.

The energy source for the anomalously high output is the permanent magnet. The output trait of the machine to increase power output as the load increases is suggestive of a characteristic of the permanent magnet itself. As a heated permanent magnet material is cooled, it spontaneously changes from a non-magnetic to a magnetic state. The effect is caused by the increasing alignment of unpaired elecrtron spins within the cooling material. As energy is removed from the material, a manifestation of progressively increasing energy (the magnetic field) occurs around the material. This trait of magnetic materials, in which the energy logic appears reversed, is termed a broken symmetry. It is this logic which is manifested by the energy output of the Newman Machines.

The work must be performed either by the alignment of more election spins or by the spins themselves. (The work output cannot be performed by demagnetization, as demagnetization requires energy input.)

If the work is performed by increasing spin alignment, thermal and flux strength measurements of the magnet should be undertaken.

If the work is performed by the individual spins, other testing procedures may be necessary. Electron spin is a conserved quantity, now believed by physicists to be dictated by the higher dimensions of space-time structure as described in supersymmetry theories. These therories have evolved via high-energy (creation) schemes: low energy effects have not been anticipated. If individual electron spins perform work in the Newman Machines, it is likely that a low-energy supersymmetric field connection exists in order to maintain the invariance of electron spins.

In either circumstance, the efficiency of the device will diminish as the magnet loses its magnetism. Assuming no demagnetization effects created by alternating magnetic fields present during device operation, and assuming a good magnet is estimated to lose about 5% of its strength every 100 years due to ambient thermal effects, the device will be down to half its power output in about 1300 years.

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S-71, South Site.
ट्राम्बे, बम्बई-४०० ०८५.
Trombay, BOMBAY-400 085.

P. Tewari
Head, Quality Assurance

D.O. No: 005/00000/86/B/ November 11, 1986

Dear Mr. Soule,

I have received your letter of 14th Oct, 1986 regarding invention of a energy machine by Joseph Newman. I very much believe that such an invention is technically possible. That the patent office has not granted Mr. Joseph Newman, patent for his invention despite his 7-year struggle in this regard as stated in your letter, is indeed a matter of regret. I am enclosing here a copy of my latest works 'Beyond Matter' which lays foundation for generation of energy and also matter from absolute vacuum. Any one who doubts the theoretical validity for a machine of the kind discovered by Joseph Newman, and was learned by me through the relevant literature sent by you to me, can certainly go through my works and write to me for detailed discussions.

I shall certainly extend my help in whatever way you deem fit. Please do write to me a specfic plan in assisting Mr Joseph Newman if you have any.

With best wishes,

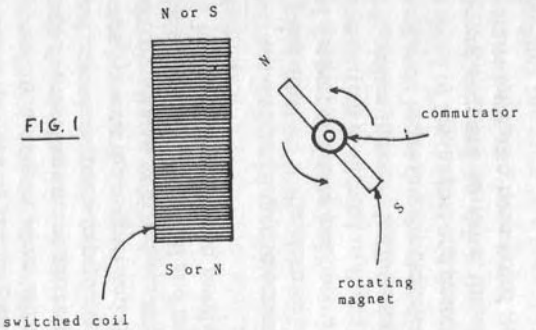
Yours sincerely

(P. Tewari) 11/11/86

Encl: as above

Mr Evan R. Soule, Jr.
1135 Jackson Avenue, Suite 305,
New Orleana, Louisiana 70130
(504) 524 - 3063.

FIG. 1



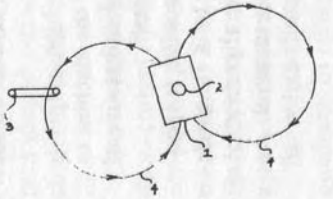


FIG. 2

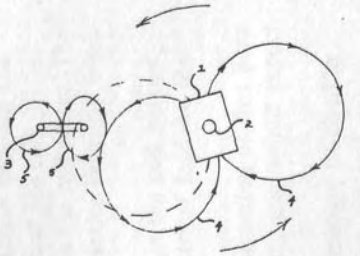


FIG. 3

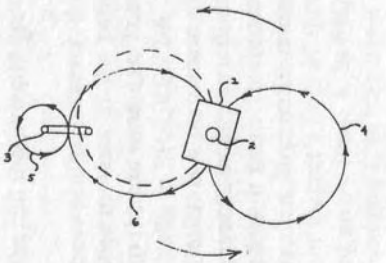


FIG. 4

In the "preliminary analysis," the focal point was the unique inductive "backlash" effect which reverses the effect of Lenz's Law. Lenz's Law is the means by which energy is conserved during the "traditional" processes of induction. The induced field must act so as to oppose the change that is causing it, thus preventing the induced emf from exceeding unity gain. Quoting, for example, from a freshman college text (Physics, A Discovery Approach, Edwards, S., 1971, John Wiley & Sons, N.Y., NY, p. 205), "If the induced field should act so as to enhance (rather than oppose) the change in flux...(initial) change." (There are many similar statements in other textual material.) It is this exact "snowball" effect between the magnet and winding which causes the permanent magnet to perform work in Newman Devices, thus producing higher- than-unity energy output.

This inductive blacklash effect must be optimized with respect to both the inertial moment of the permanent magnet and the inductive time constant of the coil in order to maximize efficiency. The time constant of the inductor must be faster than the angular acceleration of the magnet, but not so fast that the inertial mass of the magnet does not respond to the impulses created. This timing is, in turn, directly related to the "ideal matching."

This "ideal matching" consideration requires a clear understanding of the associated engineering and physical parameters of the coil.

The first parameter is the inductance of the coil. The formula for coil inductance is:

$$L = \frac{R^2 \quad N^2}{9R + 10\ell}$$

where R is the winding radius
N is the number of turns
ℓ is the length of the coil
L is the inductance.

Associated with this inductance is the time constant of the coil (wherein the current flowing in the coil has reached 63.2 percent of it's Ohm's law value), given by the expression:

$$t = \frac{L}{R}$$

where t is the time constant
L is the inductance
R is the resistance

It is clear from this formula that increasing the inductance causes the current flow to rise more slowly to it's Ohm's law value ($I = \frac{E}{R}$), because more energy is being stored in the magnetic field as the current flow increases to the Ohm's law value.

The energy stored in the magnetic field around the coil, ignoring resistive losses, is given by:

$$W = \tfrac{1}{2} LI^2$$

where W is the energy stored in the magnetic field
L is the coil inductance
I is the current

It should be clear from these three formulas that the increased magnetic field observed around larger coils comes from an increased time constant and increased inductance. Relating the magnetic field energy around the coil exclusively to a "steady state" Ohm's law current can be misleading for Newman type devices.

In the third paragraph on page two of your October 6, 1986 presentation on Newman technology, a confirmation was mentioned that tinned copper produces a higher magnetic field than plain copper. Since no measurements or quantities were given on the degree of difference, it would be difficult to comment on other than saying that the difference observed may be attributable to difference of inductances or differences in magnetic susceptabilities between the materials compared.

The magnetic field of the coil will create a torque on the magnet. For example, if we assume that the magnet is in the center of the coil, if the magnet is assumed to be perpendicular to the axis of the coil, and if the magnetic field intensity is assumed to be uniform, the resulting torque on the magnet would be:

$$L = m\ell H$$

where m is the pole strength of the magnet
ℓ is the length of the magnet
H is the magnetic field intensity of the coil
L is the torque on the magnet

The product $m\ell$ is the magnetic moment of the magnet, sometimes represented by M. If the magnet subtends an angle θ with the direction of the field, the torque acting upon the magnet is:

$$L = MH \sin \theta$$

If the moment of inertia of the magnet is A, then the angular acceleration, a, of the magnet, ignoring frictional and flux leakage losses, is:

$$a = \frac{MH}{A} \sin \theta$$

By adjusting the above coil and magnet parameters, the efficiency of the Newman devices can be optimized.

I hope that these additional details provide some extra "food for thought", and I look forward to corresponding further with you on the subject. I am convinced that, once all of the factors of the device are satisfactorily expressed in established scientific terms, everyone will benefit.

Sincerely,

Paul Bruney

GENERATION OF ELECTRICAL POWER FROM ABSOLUTE VACUUM BY HIGH SPEED ROTATION OF CONDUCTING MAGNETIC CYLINDER

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Department of Atomic Energy
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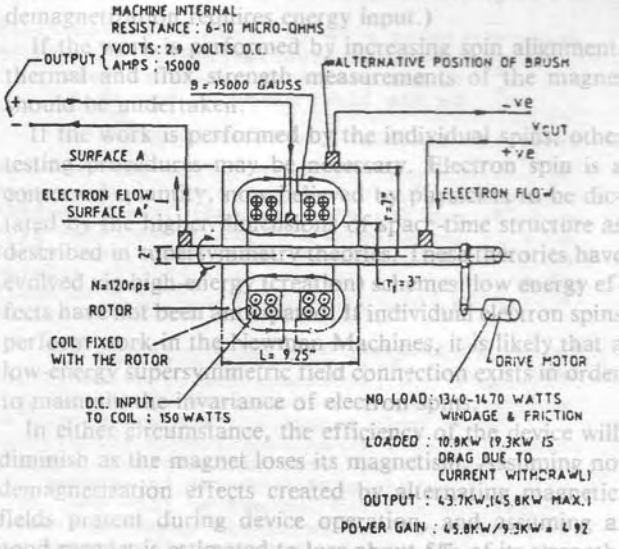
Abstract - Recent experiments performed for generation of electric power through a machine operating on new basic principles have shown that an output power greater than input can be generated. It is shown in this paper that the origin of additional power is from absolute vacuum which can be rotated to produce electric charge. The computation of energy in the rotating vacuum has been done with the use of new fundamental relationships on electron's charge and electron's rest-mass derived from electron structure in authors works [1] that discuss dynamics of vacuum and show interrelationships of space (absolute vacuum), energy and electron.

INTRODUCTION

It has been recently reported by Bruce De Palma [2] that in a new machine (electrical generator) measured output exceeds input by a factor of 4.92. As described in Fig.1A, De Palma Trombly [3] machine is essentially a conducting cylindrical magnet rotated at high speed around its axis with magnetic field parallel to the axis. Since there is no relative motion between the magnetic field and the conducting cylinder, the appearance of dc voltage between the shaft and the periphery, and consequent generation of power cannot be due to Faraday's law of electro-magnetic induction.

In order to have an independent check on the above results, experiments have been carried out on a similar machine constructed by the author at Tarapore Atomic Power Station. The test results have shown an efficiency of the machine above 250%. The experimental results in which the output is larger than the input by a factor more than unity are in violation of the 'law of conservation of energy' unless it is shown theoretically that the additional power is generated in the interatomic space of the rotating cylinder and without the requirement of an equivalent input to the drive motor. A theoretical proof of generation of power from space in the above experiments is obtained in this paper with the use of new fundamental equations on electron's charge and electron's rest-mass derived in [1].



SPACE POWER GENERATOR
(FIG. - 1A)

FORMULATION

The central concept introduced in [1] is that space, rather than being an empty extension, is a nonmaterial and mobile entity which generates, with its irrotational vortex motion, 'velocity field' (VF), defined as the most fundamental universal field from which charge, mass and the associated electromagnetic and gravitational fields are produced. In Fig.2A, an irrotational vortex of space and VF vector are shown. The non-material properties of space are continuity, incompressibility, nonviscosity and zero-mass.

The other postulate [1] is the limiting spin of space, defined as the ratio of the limiting speed of light (c) in absolute vacuum and the radius (r_e) of a spherial void created due to the breakdown of space (Fig. 2B) when spin reaches the limiting value(ω). The spherical void is a 'fieldless hole in space at the centre of electron. The electron structure, rather than being a point-charge, is an irrotational vortex of space around a central void.

Fundamental Equations on Electron's Charge and Mass.

Following fundamental equations derived from void-vortex structure of electron are relevant to the computation of rotational charge energy produced in the new machine.

Refer Fig. 2B which shows spin of space at void-space interface. At the elemental surface, tangential velocity of space is $\omega r_e \sin\theta$, which increases to its limiting value c at the dimetrical section of the interface. The basic definitions for electron's charge, rest-mass and dilectric constant for vacuum are:

$$q_e = (\pi/4)\ (4\pi r_e^2\ c) \qquad (1)$$

where

q_e is the electron's charge
r_e is the radius of spherical void
c is the light speed in vacuum

Hence, it follows that the dimensions of q_e are :

$$\therefore q_e = L^3/T \qquad (2)$$

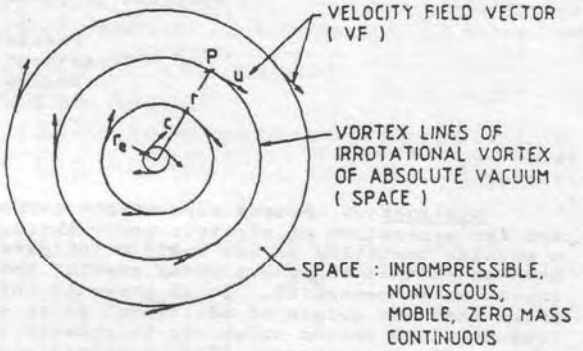
$$m_e = (4\pi/3)\ r_e^3\ c \qquad (3)$$

where

m_e is the electron's rest-mass.

Hence, it follows that the dimensions for mass m_e are:

$$m_e = L^4/T \qquad (4)$$



AT ANY POINT P OF A VORTEX LINE, ur = CONSTANT
WHEN $r = r_e$, $u = c$.
THEREFORE, cr_e = CONSTANT,
AND $u = cr_e/r$

IRROTATIONAL VORTEX OF ABSOLUTE VACUUM (SPACE)

(TWO DIMENSIONAL)

FIG. - 2A

REST-MASS OF ELEMENTAL DISC OF VOID,

dm = dv X SPEED OF CIRCULATING SPACE AT THE INTERFACE OF THE ELEMENT.

$$dm = (\pi r_e^2 \sin^2\theta\ r_e\ d\theta)\ \omega r_e \sin\theta$$

ELECTRONIC REST-MASS,

$$m_e = \int_0^{\pi} \pi c r_e^3 \sin^3\theta\ d\theta = (4\pi/3) r_e^3 c$$

DIMENSIONS OF m_e = LENGTH^4/ TIME

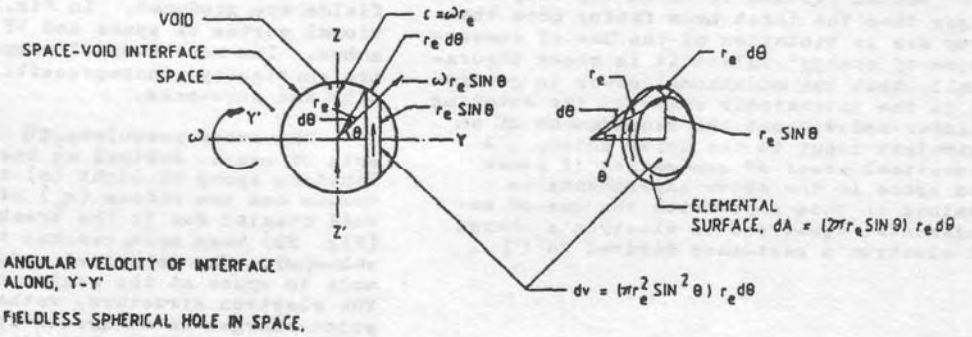
CHARGE ON ELEMENTAL RING SURFACE, dq = RING AREA x SPEED OF CIRCULATING SPACE ON RING SURFACE

$$dq = dA\ (\omega r_e \sin\theta)$$

ELECTRONIC CHARGE, $q_e = \int_0^{\pi} (2\pi r_e \sin\theta\ r_e\ d\theta)\ (\omega r_e \sin\theta)$

$$q_e = (\pi/4)\ (4\pi r_e^2\ c)$$

DIMENSIONS OF q_e = LENGTH^3/ TIME



ω : ANGULAR VELOCITY OF INTERFACE ALONG, Y-Y'

VOID : FIELDLESS SPHERICAL HOLE IN SPACE.

SPACE : NON-VISCOUS, MOBILE, CONTINUOUS, INCOMPRESSIBLE

VOID-RADIUS $r_e \simeq 10^{-11}$ CM

VOID CENTRE OF ELECTRON

FIGURE-2B

In CGS system, dielectric constant for vacuum ϵ_0 taking q_e as the unit of electric charge (in place of CGSE Unit) is given by:

$$\epsilon_0 = \pi/2c \qquad (5)$$

Substituting in (1) experimentally determined value, $q_e = 4.8 \times 10^{-10}$ CGSE units, and supposing [4] the value of void radius $r_e = 1.5 \times 10^{-11}$ cm,

$$cm^3/s = (7.2) \text{ CGSE} \qquad (6)$$

The above supposition on the radius of electron is based on the following extract [4]. "If we proceed from modern theoretical electrodynamics, which has been established better than any other field theory, the conclusion seems to be that the electron has enormous dimensions, not 10^{-13} cm, as expected from classical physics, but 10^{-11} cm is the size of the region in which the vacuum about the electron is polarized".

GENERATION OF SPACE POWER

As shown in Fig. 2B, for computation of electron's charge on interface, the product of speed of spinning space at the elemental surface and its area dA is taken. This indicates that for all values of VF varying from zero to c, charge is produced. Therefore, rotation of cylindrical surface at A will generate in its interatomic space rotational charge (q_{ro}) given by similar relationship as for electronic charge. Neglecting the area occupied by atomic nuclei and orbital electrons at surface A,

$$q_{ro} = \text{space surface} \times \text{rotational speed} = (2\pi rL)\ (2\pi rN) \qquad (7)$$

where
- r is the outer radius of rotor
- L is the rotor length
- N is revolution per sec.

Rotational charge generated at the cylindrical surface A′ is :

$$q_{ri} = (2\pi r_i L)\ (2\pi r_i N) \qquad (8)$$

where
- r_i is the radius of the inner rotor.

Since the direction of the magnetic field in the outer rotor at surface A is opposite to that in the inner rotor surface A′, the net rotational charge (q_r) generated in the rotor is :

$$q_r = q_{ro} - q_{ri} = 4\pi^2 LN(r^2 - r_i^2) \qquad (9)$$

In CGS system, substituting the values in (9), L = 23.495 cm, N = 120 r/s, r = 17.78 cm, r_i = 7.62 cm,

$$q_r = 287 \times 10^5 \text{ cm}^3/\text{s}.$$

Converting cm^3/s to CGSE units from (6),

$$q_r = 2066.4 \times 10^5 \text{ CGSE units} \qquad (10)$$

Since $q_e = 4.8 \times 10^{-10}$ CGSE unit, numbers of electrons (N_e) equivalent to charge q_r will be :

$$N_e = 2066.4 \times 10^5 / 4.8 \times 10^{-10} = 4.30 \times 10^{17} \qquad (11)$$

Energy in the electrostatic field of N_e electrons is computed as below:

Electrostatic energy (U) of a point-charge as per conventional physics is given by :

$$U = \frac{q_e^2}{2(4\pi\epsilon_0)} \left[\frac{1}{r}\right]_0^\infty \qquad (12)$$

where r, the radial distance from the charge centre, varies from zero to infinity. With void-centre of electron, the minimum value of r is taken as r_e (and not zero) since void is field-less zone. (The present difficulty in physics of infinite quantity of energy in the field of a point-charge is avoided with void-centre structure of electron).

In electron structure (Fig. 2B), the VF distribution is axi-symmetric, and consequently the charge distribution on the interface is also axi-symmetric rather than being spherically symmetrical as in case of a point charge. The co-efficient, $\pi/4$, appears in (1) because of axi-symmetric charge distribution, and will be dropped for a spherically symmetric charge distribution. Equation (1) for spherically symmetric charge will therefore become:

$$q_e = 4\pi r_e^2\ c \qquad (13)$$

Substituting the value of ϵ_0 from (5) in (12) and from (13) expressing q_e in terms of r_e and c,

$$U = (4\pi r_e^2 c)^2/2\ (4\pi^2/2c)\ r_e = (3/\pi)\ (4\pi r_e^3 c)/3.$$

which from (3) becomes:

$$U = (3/\pi) m_e c^2 = (3/\pi) 10^{-6} \text{ ergs.} \qquad (14)$$

Net energy produced from rotational charge from (11) and (14),

$$E = (4.30 \times 10^{17})\ (3/\pi) 10^{-6} \text{ ergs.} = 41 \text{ kWs} \qquad (15)$$

which is close to the maximum 45.8 kW power drawn from the machine.

Generation of Free Electrons

Rotational charge is added to the neutral system of atoms at surface A and A′ thus causing release of orbital electrons from the atoms. The free electrons are oriented by the magnetic field B such that the angular momentum of the electron is parallel to B vector (Fig.3A). The VF produced due to rotation of cylinder interacts with the VF in the vortex structure of electron (Fig. 3B) pushing electrons to one side, thus creating

positive and negative polarities (Fig. 1A) between the shaft and the surface A′. Opposite polarities develop between the shaft and the surface A, due to opposite direction of B and consequently opposite orientation of free electrons.

Constancy of Space Power Generation.

The property of nonviscosity of space maintains the rotational charge energy in the rotor without any dissipation. The energy from VF is taken for the release of orbital electrons from the atoms. When the load circuit is closed, the electrons return through the load circuit to the positive pole, unite with positively charged atoms and give off energy to VF which again releases orbital electrons, thus completing the cycle. The VF in the rotor is superposed with opposite VF when the machine is brought to rest due to retardation of the rotor and space power generation reduces to zero.

Output to Input Ratio Higher than Unity.

In conventional generators, the direction of the load current through the armature (Fig. 4A) is such that the interaction of its magnetic field with the main exciter field results in the generator rotor being rotated against the magnetic force , and for 100% efficiency, output equals input. As shown in Fig. 3B, the electron drifts 'sideways' in the rotor of the Space Power Generator (SPG) such that the plane of its magnetic field is at right angles to B, thus causing no interaction with B. The flow of electrons in the rotor of SPG due to external load current, thus, does not cause any drag on the rotor. The conventional principle of equality of electrical output with input will not be violated if the generation of continuous power due to the rotation of interatomic space is taken into account. (Further tests on SPG that are being conducted by the author at Tarapore Atomic Power Station will provide additional informations for fuller understanding of this unique power generating system.)

Space-Energy Relation.

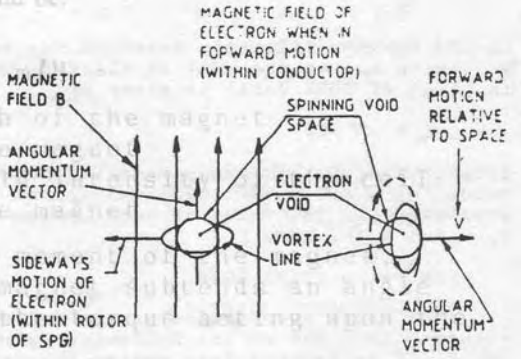
Consider the case when power is tapped from surface A, and magnetic field is supposed to be, in the whole volume of the rotor, in the same direction. From (9) and further calculations for power generation as per (15), it can be shown that,

$$P = (1.8)\pi L N r^2 10^{-5} \text{ kW}, \qquad (16)$$

where, P is power in kW.

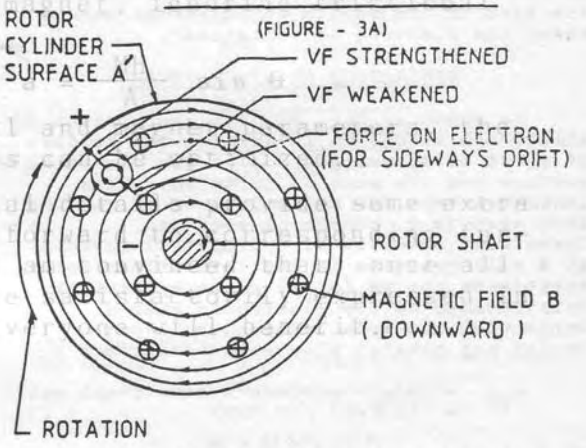
It is seen from (16) that power produced is independent of magnetic field strength. The magnetic field B, however determines the voltage developed, as shown below. The force developed on electrons due to equivalent charge, q_r, is given by Lorentz' force

$$F = q_r B(2\pi N r).$$



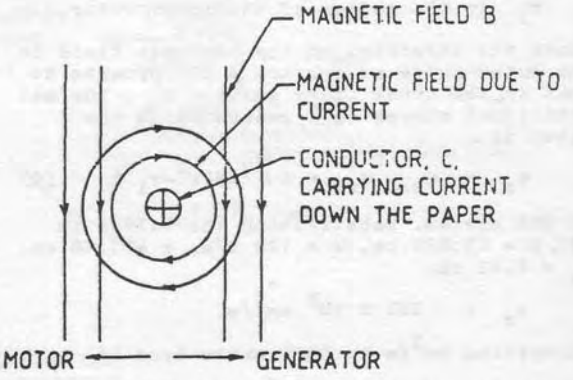
INTERACTION OF ELECTRON WITH EXTERNAL MAGNETIC FIELD

(FIGURE - 3A)



STRENGTHENED VF ATTRACTS ELECTRON TO OUTER PERIPHERY; WEAKENED VF PUSHES ELECTRON AWAY FROM SHAFT. OPPOSITE POLARITIES APPEAR ON SHAFT AND PERIPHERY.

FIG. - 3B



FOR GENERATOR ACTION, CONDUCTOR C HAS TO MOVE AGAINST HIGHER MAGNETIC FIELD.

FIG. - 4A

Energy required to create electric potential between the shaft and surface A will be,

$$\text{Energy} = q_r \, B(2\pi N r) \; r/2, \qquad (17)$$

and voltage, V, which is, Energy/q_r, is given by

$$V = B\,(2\pi N) \; r^2/2 \qquad (18)$$

CONCLUSIONS

The generation of electric charge by high speed rotation of absolute vacuum, in a magnetic conducting cylinder and sustaining the charge without any appreciable loss, provides a viable means of power production from the limitless source of space substratum. The higher output of space power generator over the input to its drive-motor pinpoints the fact that the absolute vacuum in a dynamic state, is the basic source of power. The new fundamental equations on electron's rest-mass and charge, which enable computation of rotational charge generated from the absolute vacuum, the non-material properties of vacuum, and void-centre structure of electron (rather than point-charge) are vindicated. The sphere of void at electron's centre should have radius of about 1.5×10^{-11} cm. is the prediction that follows from the experimental test discussed in this paper.

The numerous experiments carried out by Bruce De Palma since 1978, as given in his reports sent regularly to author and author's own more recent experiments confirm the fact that electric power can be generated from space at efficiency greater than unity.

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The author is grateful to Mr. Bruce De Palma for sending the results of many experiments done by him.

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After working initially in Bhilai Steel Project on electrical installations, he joined Department of Atomic Energy and worked at Plutonium Plant on electrical works. For one year he was deputed to Douglas Point Nuclear Generating Station (1964-65) for training in field engineering and installation of electrical equipment in Nuclear Power Projects. He worked as Erection Superintendent (Electrical) at Rajasthan Atomic Power Project, Deputy Chief Engineer at Narora Atomic Power Project, Chief of Transmission, in National Thermal Power Corporation, India, and presently is Head, Quality Assurance, 500 MWe Group, Nuclear Power Board, Department of Atomic Energy.

He has authored works on electron structure with space dynamics.

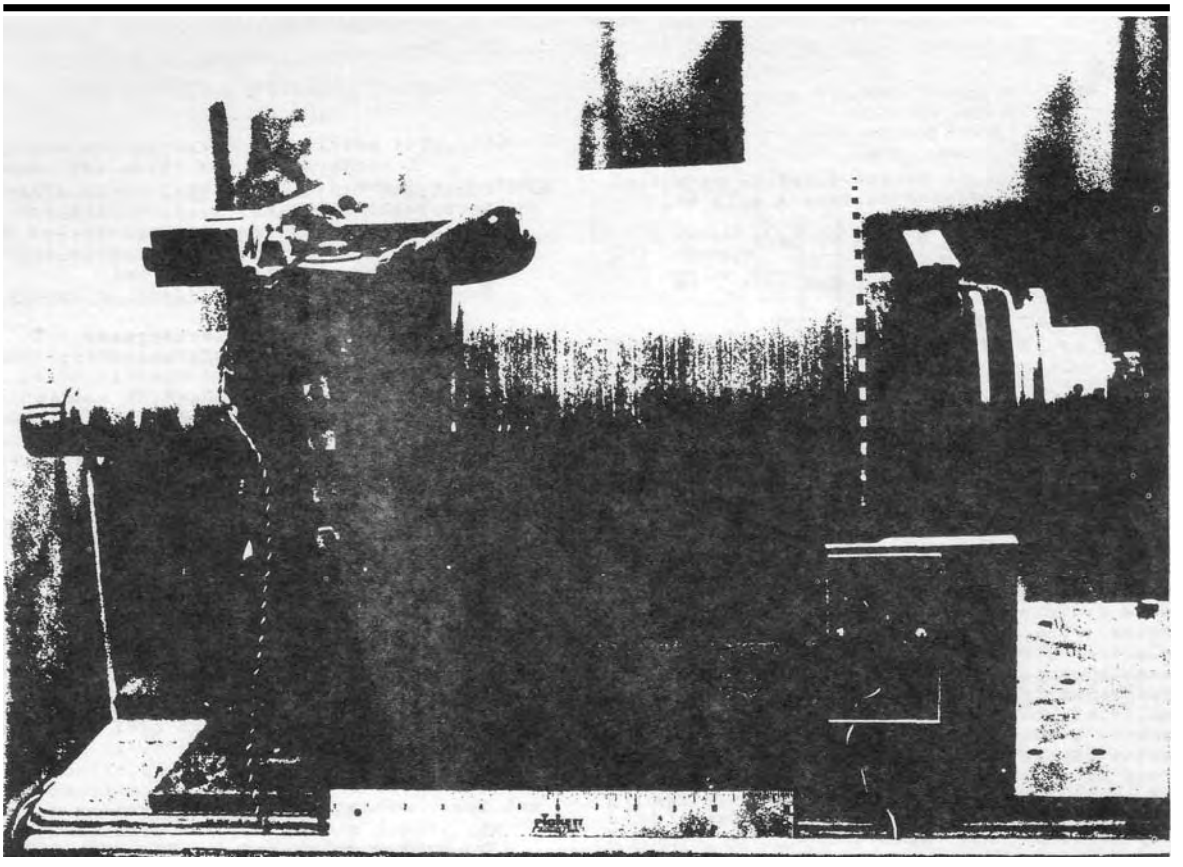

Figure l(a) - Sunburst Homopolar Generator (side view

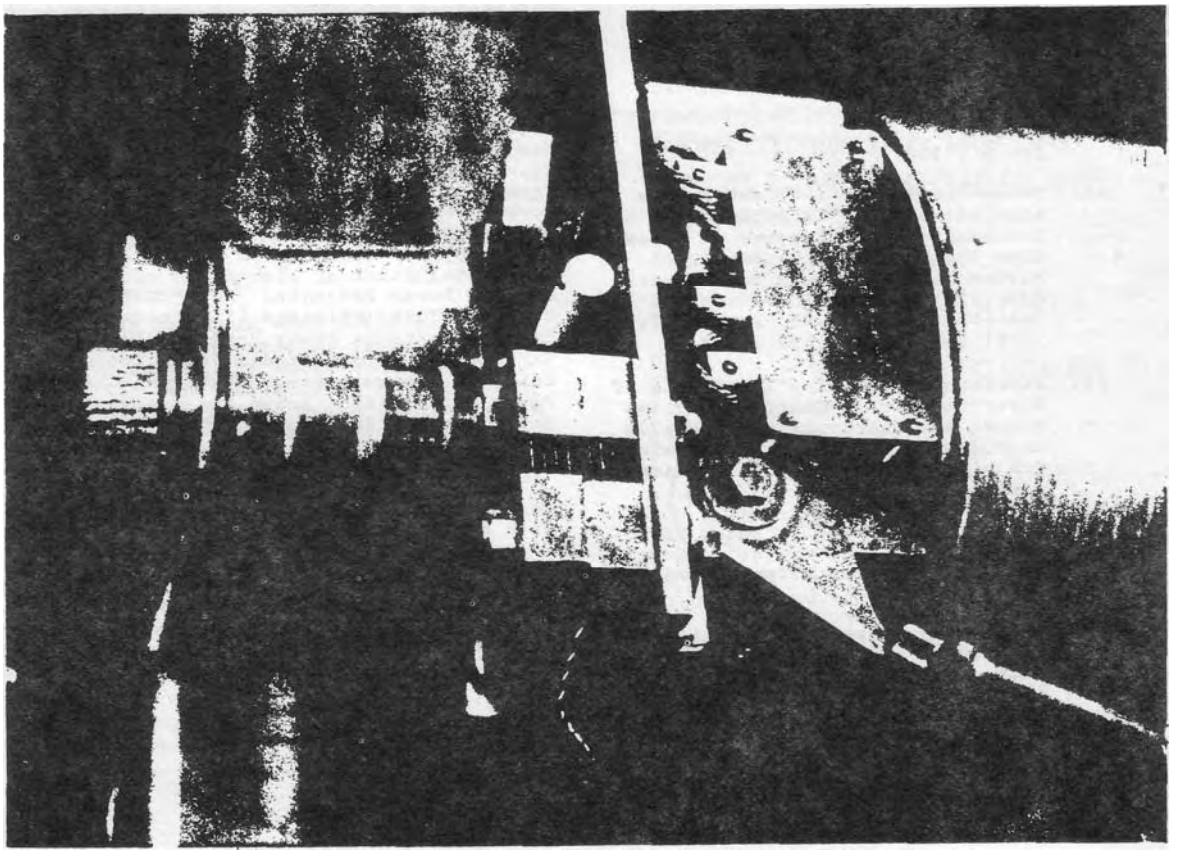

Figure l(b) - Output end detail

Homopolar "Free-Energy" Generator

Robert Kincheloe
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Stanford University

Paper presented at the 1986 meeting
of the
Society for Scientific Exploration
San Francisco

June 21, 1986

Abstract

Known for over 150 years, the Faraday homopolar generator has been claimed to provide a basis for so-called "free-energy" generation, in that under certain conditions the extraction of electrical output energy is not reflected as a corresponding mechanical load to the driving source.

During 1985 the author was invited to test such a machine. While it did not perform as claimed, repeatable data showed anomalous results that did not seem to conform to traditional theory. In particular, under certain assumptions about internally generated output voltage the increase in input power when power was extracted from the generator over that measured due to frictional losses with the generator unexcited seemed to be about 26% of the maximum computed output power.

The paper briefly reviews the homopolar generator, describes the tests on this particular machine and summarizes the resulting data.

The Sunburst Homopolar Generator

In July, 1985, the author was invited to examine and test a so-called free-energy generator known as the Sunburst N Machine. This device was designed by Bruce DePalma and constructed with the support of the Sunburst Community in Santa Barbara, CA, about 1969. The term "free-energy" refers to the claim by DePalma[1] (and others[2]) that it was capable of producing electrical output power that was not reflected as a mechanical load to the driving mechanism but derived from presumed latent energy of a spatial magnetic field.

Apart from mechanical frictional and electrical losses inherent in the particular construction, the technique employed was claimed to provide a basis for constructing a generator which could supply the energy to provide not only its own motive power but also additional energy for external use. From August 1985 to April 1986 a series of measurements were made by the author to test these claims.

Generator Description

Details of the generator construction are shown in Figs. 1 and 2. It consists essentially of an electromagnet formed by a coil of 3605 urns of #10 copper wire around a soft iron core which can be rotated with (he magnetic field parallel to and symmetrical around the axis of rotation. At each end of the magnet are conducting bronze cylindrical plates, on one of which are arranged one set of graphite brushes for extracting output current between the shaft and the outer circumference, and a second set of metering brushes

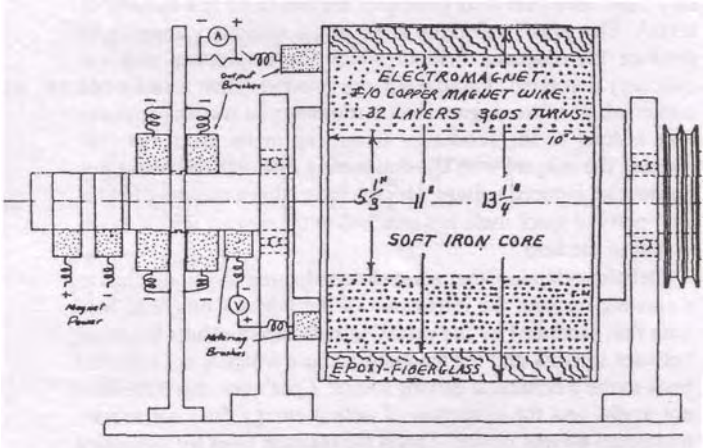


Figure 1 - Sunburst Homopolar Generator - side view

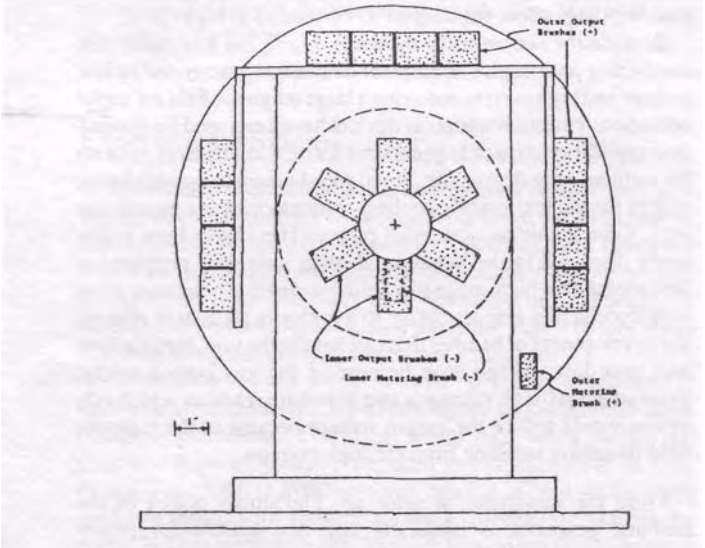


Figure 2 - Sunburst Homopolar Generator - Output (Brush) End View

The generator may be recognized as a so-called homopolar, or acyclic machine, a device first investigated and described by Michael Faraday[3] in 1831 and shown schematically in Fig. 3. It consists of a cylindrical conducting disk immersed in an axial magnetic field, and can be operated as a generator with sliding brushes extracting current resulting from the voltage induced between the inner and outer regions of the disk when the rotational energy is supplied by an external driving source. The magnitude of the incremental radial generated voltage is proportional to both the strength of the magnetic field and the tangential velocity, so that in a uniform magnetic field the total voltage is proportional to the product of speed times the difference between the squares of the inner and outer brush radii. The device may also be used as a motor when an external voltage produces a radial current between the sliding brushes.

There have been a number of commercial applications of homopolar motors and generators, particularly early in this century[4], and their operating principles are described in a number of texts.[5]. The usual technique is to use a stationary magnet to produce the magnetic field in which the conducting disk (or cylinder) is rotated. Faraday found, however, that it does not matter whether the magnet itself is stationary or rotating with the disk as long as the conductor is moving in the field, but that rotating the magnet with the conducting disk stationary did not produce an induced voltage. He concluded that a magnetic field is a property of space itself, not attached to the magnet which serves to induce the field.[6]

DePalma claimed[7] that when the conducting disk is attached to a rotating magnet, the interaction of the primary magnetic field with that produced by the radial output current results in torque between the disk and the magnet structure which is not reflected back to the mechanical driving source. Lenz's law therefore does not apply, and the extraction of output energy does not require additional driving power. This is the claimed basis for extracting "free" energy. Discussions of the torque experienced by a rotating magnet are also discussed in the literature.[8] for independently measuring the induced voltage between these locations. A third pair of brushes and slip rings supply the current for the electromagnet. A thick sheath of epoxy-impregnated fiberglass windings allow the magnet to be rotated at high speed.

Because the simple form shown in Fig. 3 has essentially one conducting path, such a homopolar device is characterized by low voltage and high current requiring a large magnetic field for useful operation. Various homopolar devices have been used for specialized applications[9] (such as generators for developing large currents for welding, ship degaussing, liquid metal magnetohydrodynamic pumps for nuclear reactor cooling, torquemotors for propulsion, etc.), some involving quite high power. These have been extensively discussed in the literature, dealing with such problems as developing the high magnetic fields required (sometimes using superconducting magnets in air to avoid iron saturation effects), the development of brushes that can handle the very high currents and have low voltage drop because of the low output voltage generated, and with counteracting armature reaction which otherwise would reduce the output voltage because of the magnetic field distortion resulting from the high currents.

From the standpoint of prior art. DePalma's design of the sunburst generator is inefficient and not suitable for power generation:

1. The magnetic field is concentrated near the axis where the tangential velocity is low, reducing the generated voltage.

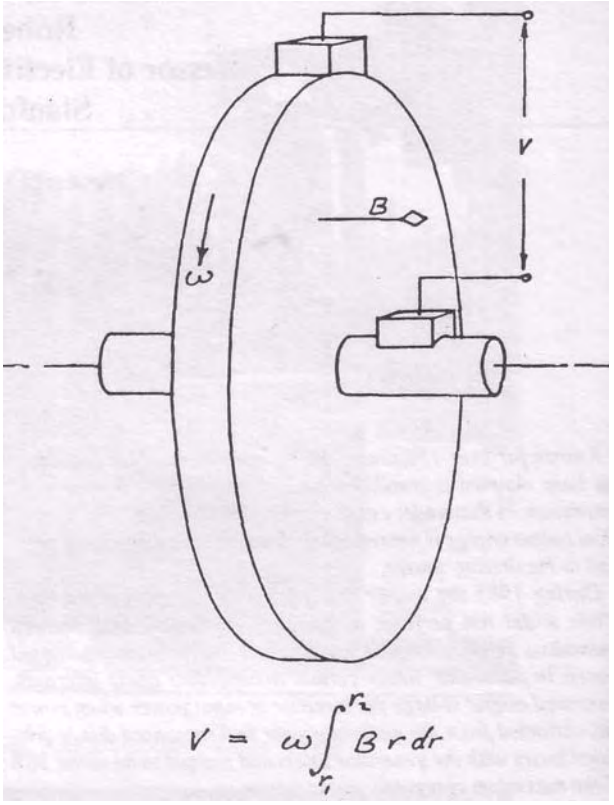


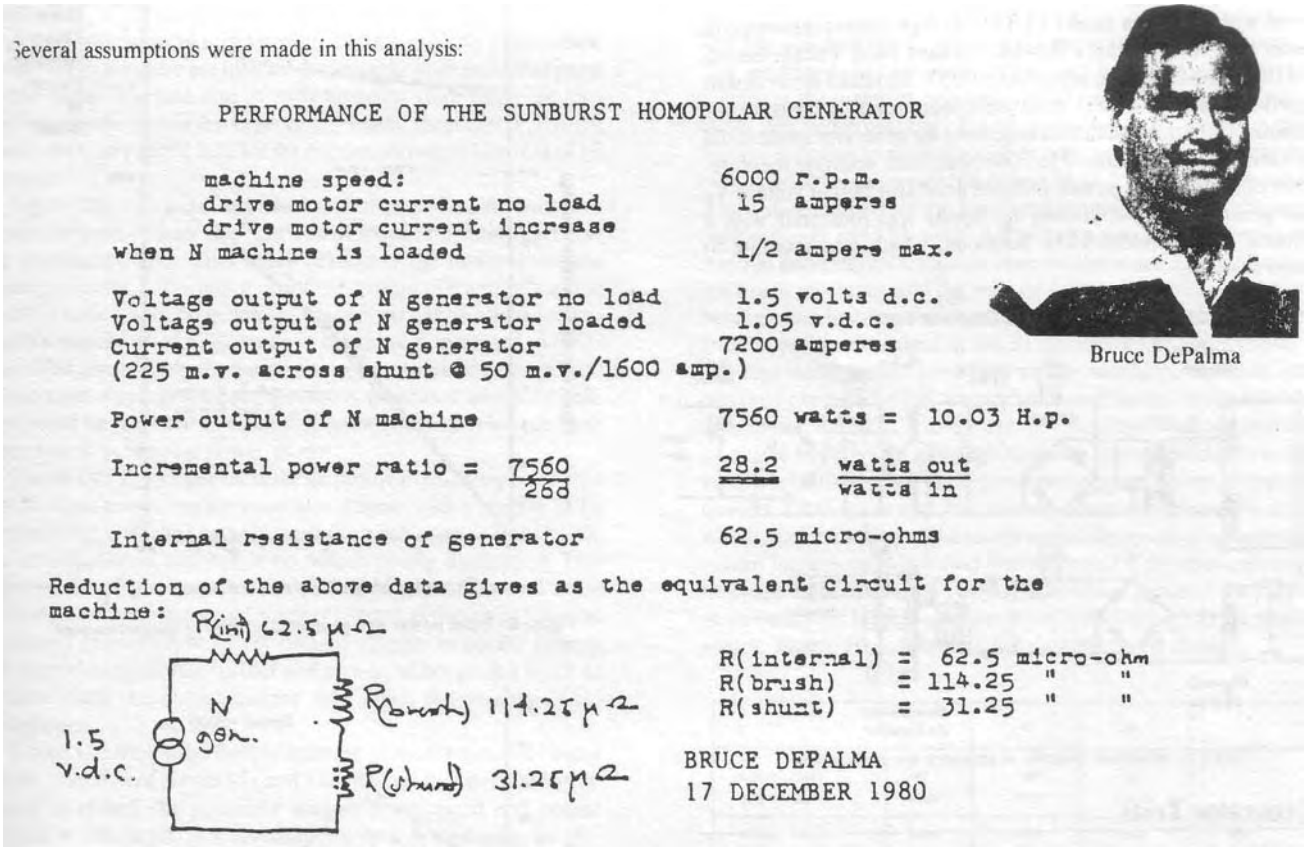
Figure 3 - Homopolar (Acyclic) Generator

2. Approximately 4 kilowatts is required to energize the magnet, developing enough heat so that the device can only be operated for limited periods of time.
3. The graphite brushes used have a voltage drop almost equal to the total induced voltage, so that almost all of the generated power is consumed in heating the brushes.
4. The large contacting area (over 30 square inches) of the brushes needed for the high output current creates considerable friction loss.

However, this machine was not intended as a practical generator but as a means for testing the free energy principle, so that from this point of view efficiency was not required.

DePalma's Results with the Sunburst Homopolar Generator

In 1980 DePalma conducted tests with the Sunburst generator, describing his measurement technique and results in an unpublished report[10]. The generator was driven by a 3 phase a-c 40 horsepower motor by a belt coupling sufficiently long that magnetic fields of the motor and generator would not interact. A table from this report giving his data and results is shown in Fig. 4. For a rotational speed of 6000 rpm an output power of 7560 watts was claimed to require an increase of 268 watts of drive power over that required to supply losses due to friction, windage, etc. as measured with the output switch open. If valid, this would mean that the output power was 28.2 times the incremental input power needed to produce it.



Several assumptions were made in this analysis:

PERFORMANCE OF THE SUNBURST HOMOPOLAR GENERATOR

machine speed:	6000 r.p.m.
drive motor current no load	15 amperes
drive motor current increase when N machine is loaded	1/2 ampere max.
Voltage output of N generator no load	1.5 volts d.c.
Voltage output of N generator loaded	1.05 v.d.c.
Current output of N generator (225 m.v. across shunt @ 50 m.v./1600 amp.)	7200 amperes
Power output of N machine	7560 watts = 10.03 H.p.
Incremental power ratio = $\frac{7560}{268}$	28.2 $\frac{\text{watts out}}{\text{watts in}}$
Internal resistance of generator	62.5 micro-ohms

Reduction of the above data gives as the equivalent circuit for the machine:

R(internal) = 62.5 micro-ohm
R(brush) = 114.25 " "
R(shunt) = 31.25 " "

BRUCE DEPALMA
17 DECEMBER 1980

Bruce DePalma

Figure 4 - Test data from report by Bruce DePalma

1. The drive motor input power was assumed to be the product of the line voltage and current times the appropriate factor for a three-phase machine and an assumed constant 80% power factor. There was apparently no consideration of phase angle change as the motor load increased. This is clearly incorrect, since inclusion of phase angle is essential in calculating power in an a-c circuit, particularly with induction motors. It might also be noted that the measured incremental line current increase of 0.5 ampere (3.3%) was of limited accuracy as obtained with the analog clamp-on a-c ammeter that was used.
2. The output power of the generator was taken to be the product of the measured output current and the internally generated voltage in the disk less the voltage drop due only to internal disk resistance. Armature reaction was thus neglected or assumed not to be significant.
3. The generated voltage which produced the current in the main output brushes was assumed to be the same as that measured at the metering brushes, and the decrease in metered voltage from 1.5 to 1.05 volts when the output switch is closed is assumed to be due to the internal voltage drop resulting from the output current tlowing through the internal disk resistance that is common to both sets of brushes and calculated to be 62.5 microohms.

Of these, the first assumption seems most serious, and it is the opinion of this author that some of DePalma's numerical results are questionable. A similar conclusion was reached by Tim Wilhelm of the Stelle Community in Illinois" who witnessed tests by DePalma in 1981.

Recent Tests of the Sunburst Generator by the Author

Being intrigued by DePalma's claims, the author accepted the offer by Mr. Norman Paulsen, founder of the Sunburst Community, to conduct tests on the generator which had not been used since the tests by DePalma.

Experimental Setup

A schematic diagram of the test arrangement is shown in Fig. 5. The generator is coupled by a belt to the drive motor behind it, together with the power supplies and metering both contained within and external to the Sunburst power and metering cabinet. The panel of the test cabinet provided power for the generator magnet and motor field. Meters on the panel were not functional and were not used; external meters were supplied. It was decided to use a d-c drive motor, primarily to facilitate load tests at different speeds and to simplify accurate motor input power measurements. The actual motor used was a surplus d-c generator from a DC-6 aircraft, rated at 400 amperes at 30 volts output from 3000 to 8000 rpm and capable of over 40 hp when used as a motor with appropriate forced air cooling. Half of the motor brushes were removed to reduce friction losses. Referring to Figure 9. variable d-c supplies for the motor armature and field and the homopolar generator magnet were provided by variacs and full-wave bridge rectifiers. Voltages and currents were mea-

Continued on page 26

Continued from page 23

sured with Micronta model 11-191 3½ digit meters calibrated to better than 0.1% against a Hewlett Packard 740B Voltage Standard that was accurate to better than .005%. Standard meter shunts together with the digital voltmeters were used to measure the various currents. With this arrangement the generator speed could be varied smoothly from 0 to 7000 rpm, with accurate measurement of motor input power, metered generator output voltage V_g and generator output current I_g. Speed was measured with a General Radio model 1531 Strobotac which was accurate to better than 2%.

Sunburst Homopolar Generator Test

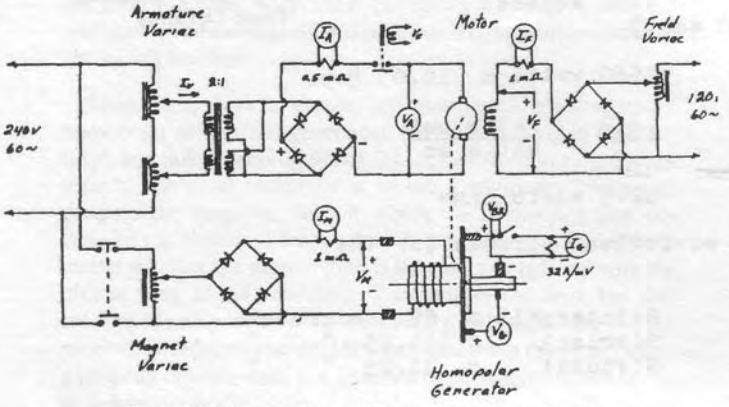


Figure 5 - Schematic diagram of generator test arrangement

Generator Tests

Various tests were conducted with the output switch open to confirm that generated voltage at both the output brushes (V_{br}) and metering brushes were proportional to speed and magnetic field, with the polarity reversing when magnetic field or direction of rotation were reversed. Tracking of V_g and V_{br} with variation of magnetic field is shown in Fig. 6, in which it is seen that the output voltages are not quite linearly related to magnet current, probably due to core saturation. The more rapid departure of V_g from linearity may be due to the different brush locations as seen on Fig. 3, differences in the magnetic field at the different brush locations, or other causes not evident. An expanded plot of this voltage difference is shown in Fig. 7, and is seen to considerably exceed meter error tolerances.

Figure 6 also shows an approximate 300 watt increase in drive motor armature power as the magnet field is increased from 0 to 19 amperes. (The scatter of input power measurements shown in the upper curve of Fig. 6 resulted from the great sensitivity of the motor armature current to small fluctuations in power line voltage, since the large rotary inertia of the 400 pound generator does not allow speed to rapidly follow line voltage changes). At first it was thought that this power loss might be due to the fact that the outer output brushes were arranged in a rectangular array as shown in Fig. 1. Since they were connected in parallel but not equidistant from the axis the different generated voltages would presumably result in circulating currents and additional power dissipation. Measurement of the generated voltage as a function of radial distance from the axis as shown in Fig. 8, however, showed that almost all of the voltage differential occurred between 5 and 12 cm, presumably because this was the region of greatest magnetic field due to the centralized iron core. The voltage in the region of the outer brushes was almost constant, with a measured variation of only 3.7% between the extremes, so that this did not seem to

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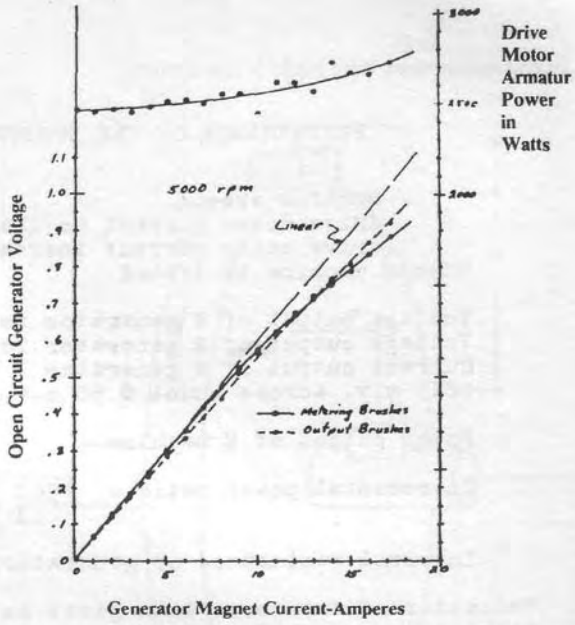

Figure 6 - Input power and generated voltage vs magnet current

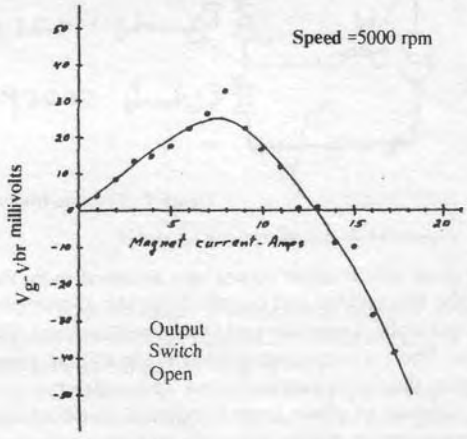

Figure 7 - Metering and output brush voltage difference vs magnet current

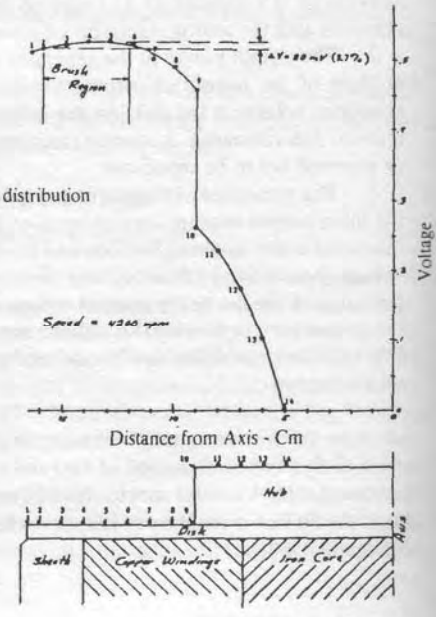

Figure 8 - Radial voltage distribution

Continued

explain the increase in input power. The other likely explanation seems to be that there are internal losses in the core and other parts of the metal structure due to eddy currents, since these are also moving conductors in the field. In any event, the increase in drive power was only about 10% for the maximum magnet current of 19 amperes.

Figure 9 typifies a number of measurements of input power and generator performance as a function of speed and various generator conditions. The upper curve (a) shows the motor armature input power for a constant motor field current of 6 amperes as the speed is varied with no generator magnet excitation and is seen to reach a maximum of 4782 watts as the speed is increased to 6500 rpm. This presumably represents the power required to overcome friction and windage losses in the motor, generator, and drive belt, and could be expected to remain essentially constant whether the generator is producing power or not.

Curve 14b shows the increase of motor armature power that results from energizing the generator magnet with a current of 16 amperes but with the generator output switch open so that there is no output current and hence no output power dissipation. This component of power (which is related to the increase of drive motor power with increased magnet current as shown in Fig. 6 as discussed above) might also be present whether or not the generator is producing output current and power, although this is not so evident since the output current may affect the magnetic field distribution.

Curve 14c shows the further increase of motor armature input power over that of curves 14a and 14b that results when the output switch is closed, the generator magnet is energized and output current is produced. It is certainly not zero or negligible as predicted by DePalma, but rises to a maximum of 802 watts at 6500 rpm. The total motor armature input power under these conditions is thus the sum of (a), (b). and (c) and reaches a maximum of 6028 watts at 6500 rpm.

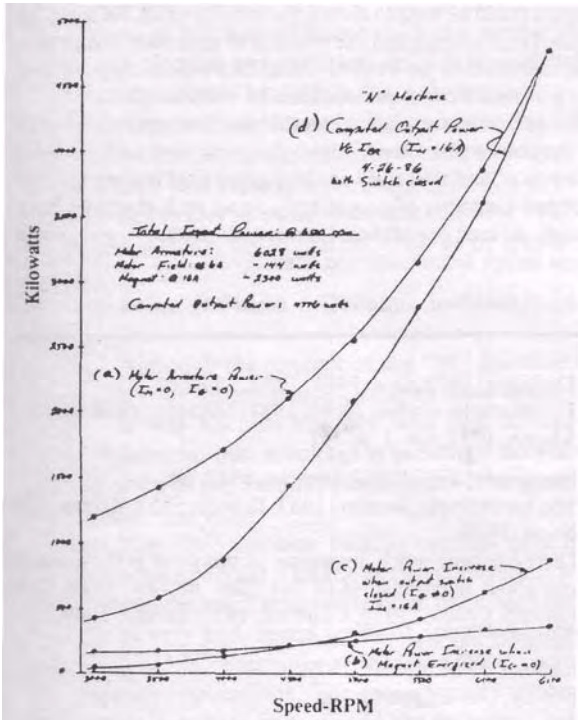

Figure 9 - Input and Output power vs speed

The big question has to do with the generated output power. The measured output current 6500 rpm was 4776 amperes; the voltage at the metering brushes was 1.07 volts. Using a correction factor derived from Fig. 7 and assuming a common internal voltage drop due to a calculated disk resistance of 38 microohms, a computed internal generated potential of 1.28 volts is obtained which if multiplied by the measured output current results in an output power of 6113 watts. All of this power is dissipated in the internal and external circuit resistances, the brush loss due both to the brush resistance and the voltage drops at the contact surfaces between the brushes and the disk (essentially an arc discharge), and the power dissipated in the 31.25 microohm meter shunt. It still represents power generated by the machine, however, and certainly exceeds the 802 watts of increased motor drive power by a factor of 7.6 to 1. It even exceeds the input motor armature power of 6028 watts, although the total system efficiency is still less than 100% because of the generator magnet power of approximately 2300 watts and motor field power of about 144 watts which must be added to the motor armature power to obtain total system input power. It would thus seem that if the above assumptions are valid, DePalma correctly predicted much of the output power with this kind of machine is not reflected back to the motive source. Figure 10 summarizes the data discussed above.

	I	II	III	
MAGNET POWER	OFF	ON	ON	
OUTPUT SWITCH	OPEN	OPEN	CLOSED	
SPEED	6500	6500	6500	RPM
MAGNET CURRENT	0	16	16	AMPERES
MOTOR ARMATURE POWER	4782	5226	6028	WATTS
INCREMENT	444	802		WATTS
METER BRUSH VOLTAGE	.005	1.231	1.070	VOLTS
OUTPUT CURRENT	0	0	4776	AMPERES
GENERATED VOLTAGE		1.280	(1.280)	VOLTS
GENERATED POWER	0	0	(6113)	WATTS

Figure 10 - Summary of test results at 6500 rpm

Homopolar Generator Test - Big Springs Ranch April 26,1986

To further examine the question of the equivalence between the internally generated voltage at the main output brushes and that measured at the metering brushes, a test was made of the metered voltage as a function of speed with the generator magnet energized with a current of 20 amperes both with the output switch open and closed. The resulting data is shown in Fig. 11. The voltage rises to about 1.32 volts at 6000 rpm with the switch open (which is close to that obtained by DePalma) and drops 0.14 volts when the switch is closed and the measured output current is 3755 amperes, corresponding to an effective internal resistance of 37 microohms. Even if this were due to other causes, such as armature reaction, it does not seem likely that there would be a large potential drop between the output and metering brushes because of the small distance, low magnetic field (and radial differential voltage), ana large mass of conducting disk material. Internal currents many times the measured output current of almost 4000 amperes would be required for the voltage difference between the outer metering and output brushes to be significant and invalidate the conclusions reached above.

A further method of testing the validity of the assumed generated output potential involved an examination of the voltage drop across the graphite brushes themselves. Many texts on electrical machinery discuss the brush drop in machines with commutators or slip rings. All of those examined agree that graphite brushes

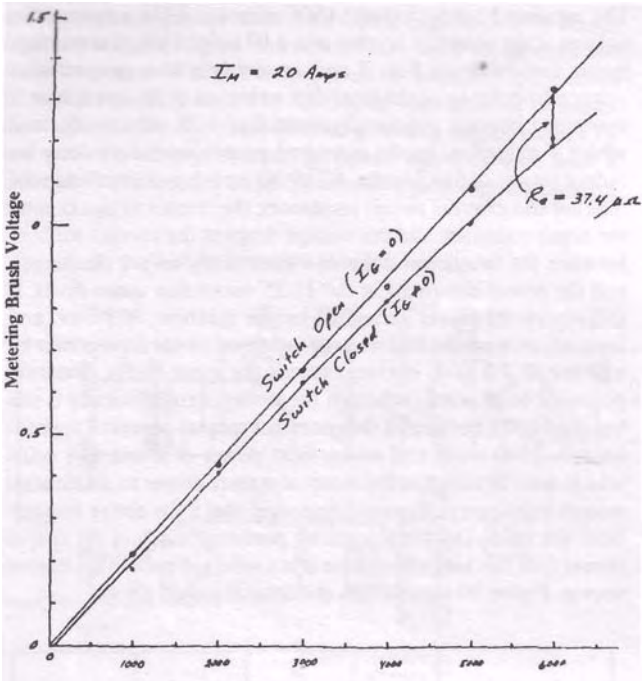

Figure 11 - Metering brush voltage vs speed

typically have a voltage drop that is essentially constant at approximately one volt per brush contact when the current density rises above 10-15 amperes per square centimeter. To compare this with the Sunburst machine the total brush voltage was calculated by subtracting the IR drop due to the output current in the known (meter shunt) and calculated (disk, shaft, and brush lead) resistances from the assumed internally generated output voltage. The result in Fig. 12 shows that the brush drop obtained in this way is even less than that usually assumed, as typified by the superimposed curve taken from one text. It thus seems probable that the generated voltage is not significantly less than that obtained from the metering brushes, and hence the appropriateness of the computed output power is supported.

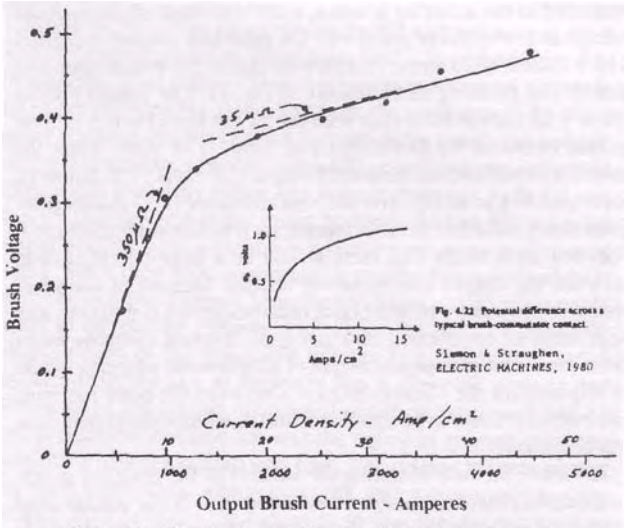

Figure 12 - Calculated output brush voltage drop vs current

Conclusions

We are therefore faced with the apparent result that the output power obtained when the generator magnet is energized greatly exceeds the increase in drive motor power over that required to supply friction losses with the magnet not energized, which is certainly anomalous in terms of conventional theory. Several possible explanations for this occur to the author:

1. There could be a large error in the measurements, such as some factor such as noise which caused the digital meters to read incorrectly or grossly incorrect current shunt resistances, although in the opinion of the author this seems unlikely.

2. There could be a large difference between the measured voltage at the metering brushes and the actual generated voltage in the output brush circuit due to armature reaction, differences in the external metering and output circuit geometry, or other unexplained cause, although again as discussed above the various data suggest that this is not likely.

3. DePalma may have been right in that there is indeed a situation here whereby energy is being obtained from a previously unknown and unexplained source. This is a conclusion that most scientists and engineers would reject out of hand as being a violation of known laws of physics, and if true would have incredible implications.

Perhaps other possibilities will occur to the reader.

The data obtained so far seems to have shown that while DePalma's measurement technique was flawed and his numbers overly optimistic, his basic premise has not been disproved. While the Sunburst generator does not produce useful output power because of the internal losses inherent in the design, a number of techniques could be used to reduce the friction losses, increase the total generated voltage and the fraction of generated power that can be delivered to an external load. DePalma's claim of free energy generation could perhaps then be examined.

It should be mentioned, however that the obvious application of using the output of a "free-energy" generator to provide its own motive power, and thus truly produce a source of free energy, has occurred to a number of people and several such machines have been built. At least one of these known to the author[12], using some excellent design techniques, was unsuccessful.

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1. DePalma, 1979 a,b,c, 1981, 1983, 1984, etc.
2. For example, satellite News, 1981, Marinov, 1984, etc.
3. Martin, 1932, vol 1, p. 381.
4. Das Gupta, 1961, 1962; Lamme, 1912, etc.
5. See, for example, Bumby, 1983; Bewley, 1952; Kosow. Nasar, 1970.
6. There has been much discussion on this point in the literati;-: and about interpretation of flux lines. Bewley, 1949; Cohn, 1949a,b; Crooks, 1978; Cullwick, 1957; Savage, 1949.
7. DePalma, op. cit.
8. Kimball, 1926;Zeleny, 1924.
9. Bumby, Das Gupta, op. cit.
10. DePalma, 1980
11. Wilhelm, 1980, 1981 and personal communication.
12. Wilhelm, 1981

VI. The "N" MACHINES

d) Trombly-/Kahn-"N"Machine

The Trombly/-Kahn "N" Machine represents a new and improved version of classic "N" machine types. It is a departure from the past machines since it utilizes rotating electromagnets along with the central-"disc" rotating component.

The improved operation of the Trombly/-Kahn "N" Machine is achieved by providing a low reluctance magnetic return path for the magnetic flux that passes through the central rotor-(disc) component. This low reluctance return path permits the electromagnets to produce a high electrical field with a relatively small input current. Since the input current is low, overheating is avoided and the full potential of the homopolar generator is achieved.

The low reluctance magnetic return path is preferrably produced by providing a relatively high permeability co-rotating enclosure (having enclosure halves) of sufficient radial and axial dimensions to enclose the electromagnets and disc conductor of the rotor. The disc conductor is preferrably constructed from a high permeability, low resistivity material such as iron, and can be integral with the electromagnetic cores.

An International Patent has been issued on this present art which is listed as:-X02K31/00, and fully describes the details and specifics of the new type of "N" machine.

In the summary of this Patent, it is stated that this present invention provides a co-rotating homopolar generator that avoids the heating problems of prior machines and renders possible and convenient the generation of electricity at extremely high efficiency. The generator has a rotor comprising a disk conductor and co-rotating co-axial electromagnets on either side. The present invention achieves the improved operation by providing a low reluctance magnetic return path for the magnetic flux that passes through the disk conductor.

The low reluctance path permits the electromagnets to produce a high field-(limited to 2.2 Teslas by the saturation of iron) with a relatively low value of coil excitation current. Thus overheating is avoided and the full potential of the homopolar generator is achieved.

In the preferred embodiment, the low reluctance magnetic return path is provided by a relatively high permeability co-rotating enclosure,-(designated a "flux return enclosure") of sufficient radial and axial size to enclose the magnets and disk conductor of the rotor. Additionally, the disk conductor itself is preferrably constructed from a high permeability low resistivity material such as silicon iron, and can indeed be integral with the electromagnet cores.

Output power is drawn between the periphery of the disk conductor (within the flux return enclosure) and the rotor shaft through fixed disk and shaft brushes. The disk brush protrudes through an annular slot in the flux return enclosure, and is geometrically configured so as not to add a large amount of reluctance to the flux return path. To this end, the disk brush is formed with a relatively thin web portion that passes through the enclosure gap. The web portion still has sufficient thickness so that the mechanical strength of the brush is not compromised. Moreover, the web portion has sufficient thickness, and hence conductance, that the saving in magnet power is not offset by excessive ohmic heating in the web portion.

A quote from Bruce DePalma about this latest Trombly/-Kahn "N" Machine,:-"Trombly and Kahn are two of the brightest young physicists in America today." "Their work is of the very highest quality and is described in the subject Patent and report."

Bruce DePalma believes that this new "N" Machine can be enlarged to handle more current by the application of a liquid metal brush system, such as he employs in his "N" Machine project work.

e) Bruce DePalma DePalma Institute, Santa Barbara, California

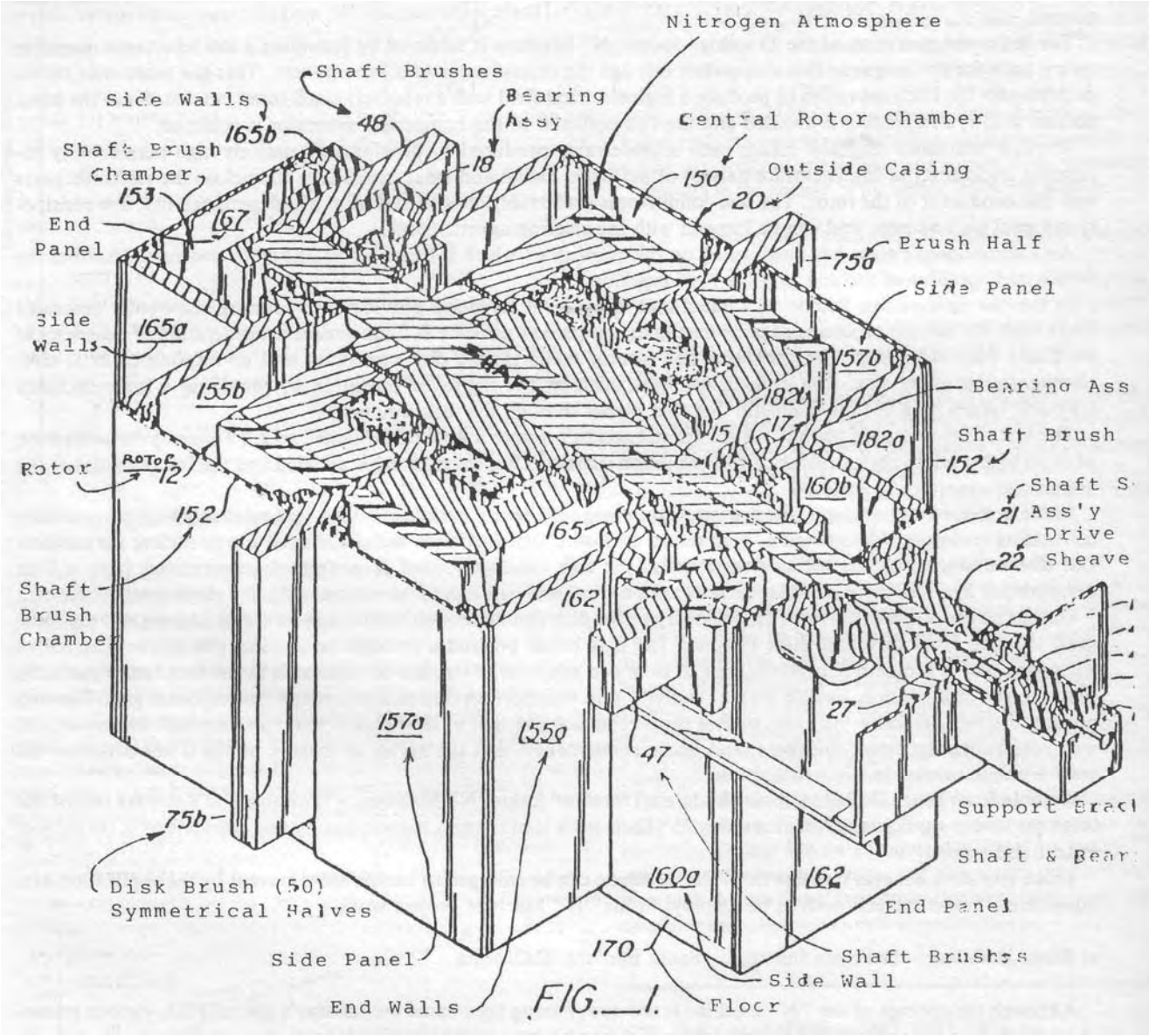
Although the concept of the "N" machine is not new, having been based on Faraday's disc of 1831, various researchers, including Bruce DePalma have made continuous performance improvements on these machines.

It was Michael Faraday who first rotated a copper disc between poles of a horseshoe permanent magnet and discovered that a voltage is produced between the central shaft and the outer edge of the disc. The disc has become known as the Faraday Homopolar-Disc generator, and the EMF is drawn off by brushes in contact with the shaft and outer disc edge.

The "N" machine basiclly consists of a high speed cylindrical permanent magnet from which electrical current (positive charge) with the circuit connection with brushes made in the same manner as the Homopolar Disc generators. These electrical generating units have been the first and simpliest machines which exhibit an over-unity output, but only at very high speed levels of approximately 7000 rpm, and higher.

The "N" machines produce a uniform wattage flow at low voltage high current, which is a useful feature for many power applications. The requirement for the peripherial brush contacts has been, and to some extent remains a problem for these units due to the extremely high surface contact velocities.

Bruce DePalma has been active in evolving solutions to the various problems of the "N" machines, including the safeguarding against bursting of the rotating magnet at high speeds. One of his machines is essentailly a hybrid design,



Nomenclature

12-Rotor
15-Shaft
17&18-Bearing Assemblies
20-Casing
21-Shaft Seal Assembly
27-Shaft End Bearing
30-Central Disk Conductor
32, A, B-Electromagnet Coils
35,A,B-Iron Cores
37,A,B-Flux Return Enclosure
40-Electrically Isolated Shaft Portion
42-Magnet Excitation Power Supply
45-Magnet Brushes
47-Shaft Brushes
48-Shaft Brushes
49-Disk Brush

which features a Faraday copper disc combined with central ring magnets as the negative pole component. This machine ran at 7000 rpm, and above, producing an over-unity output.

One of the earlier problems with "N" machines has been the 1 w-friction transfer of the high current from the high speed rotor through brushes of some special type. Liquid metals, such as Mercury have been used as the stationary current transfer means, but since Mercury is both costly and toxic in use, some "N" machine researchers prefer not to use it.

f) Tom Valone Integrity Electronics & Research, Buffalo, N.Y., 14221

Tom Valone has been actively involved in the continuing research and development of "N" Machines for many years, and has contributed to their improvement and acceptance. Like Bruce DePalma, Tom Valone believes in the value and advantages of the liquid brush system, and is currently using liquid solder for this prototype units.

From Tom Valone, June, 1985:-"In the field of non-conventional energy generators, the one-piece Homopolar of Faraday Generator has kindled a lot of attention. Ever since 1831, the rotating magnet and disc combination has defied complete analysis because of its operation totally within a non-inertial reference frame.

Conventional physics has attempted to come to terms with its operation, but anomalies still seem to remain.

A few physicists have recognized that its basis is relativistic, as can be seen by analyzing the polarization (electrical) set up by a moving body in a magnetic field. (Special Relativity). However without restrictions on mass and rotational speed, the only valid physical treatment seems to lie in the generally-covariant form of Maxwell's equations which can be applied in a non-inertial reference frame, (General Relativity). Einstein comes the closest to answering the questions about Faraday's Generator, by some still remain..." T.V., 6/85.

Tom Valone's book, "The One-Piece Faraday Generator: Theory and Experiment" is available from:- Integrity Electronics & Research,-558 Breckenridge Street, Buffalo, New York 14222. 17.00 p.p.

VII. MOTOR/GENERATOR UNITS & SYSTEMS

a) Raymond Kromrey - Switzerland (1968)

The electric generator (U.S. Pat. No. 3,374,376) has been designed to negate the effects of back-EMF within the field windings of generators by the application of special arrangement of field permanent magnets and an armature consisting of two series-connected coils.

The unit operates as a conventional, but opposed, two pole generator since the permanent magnetspoles are reversed at either end of the stator. The armature is thus demagnetized and remagnetized successively as it is revolved within framework bearings, with resulting reversal of polarity-and an A.C. output.

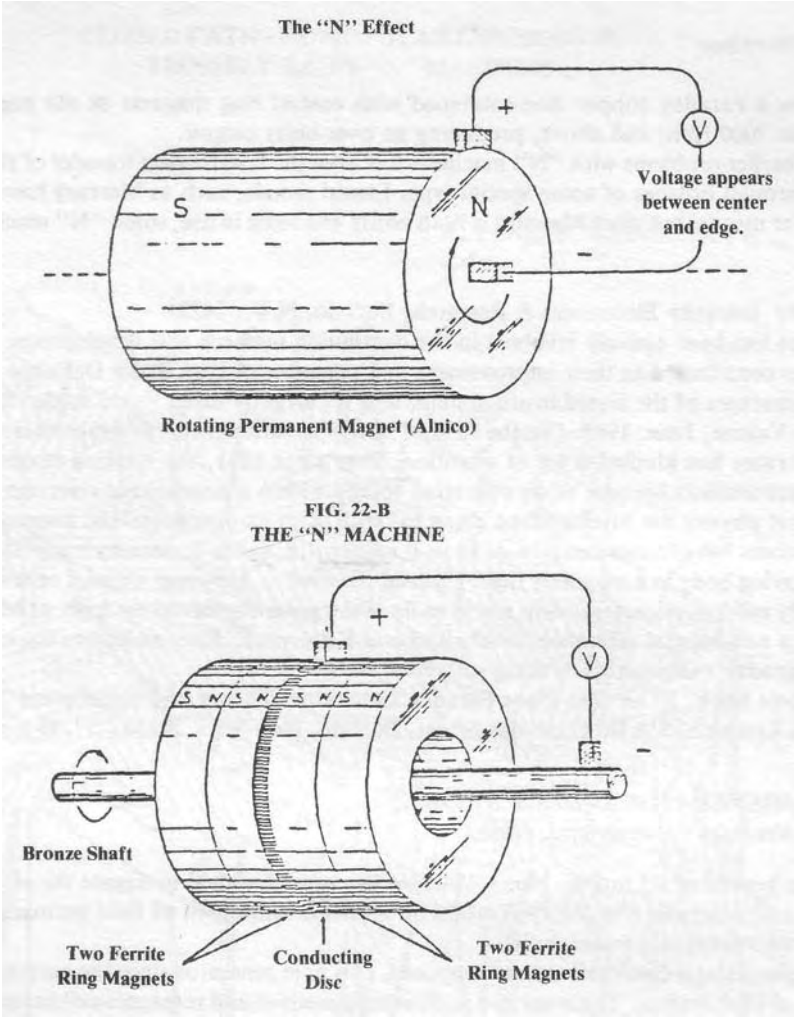
When the output circuit is open, the mechanical energy applied to the rotor/armature is converted into the work of magnetization, and when the circuit is closed, part of this work is converted into electrical energy as the current flowing through the windings opposes the magnetizing action of the field and increases the magnetic reluctance of the armature.

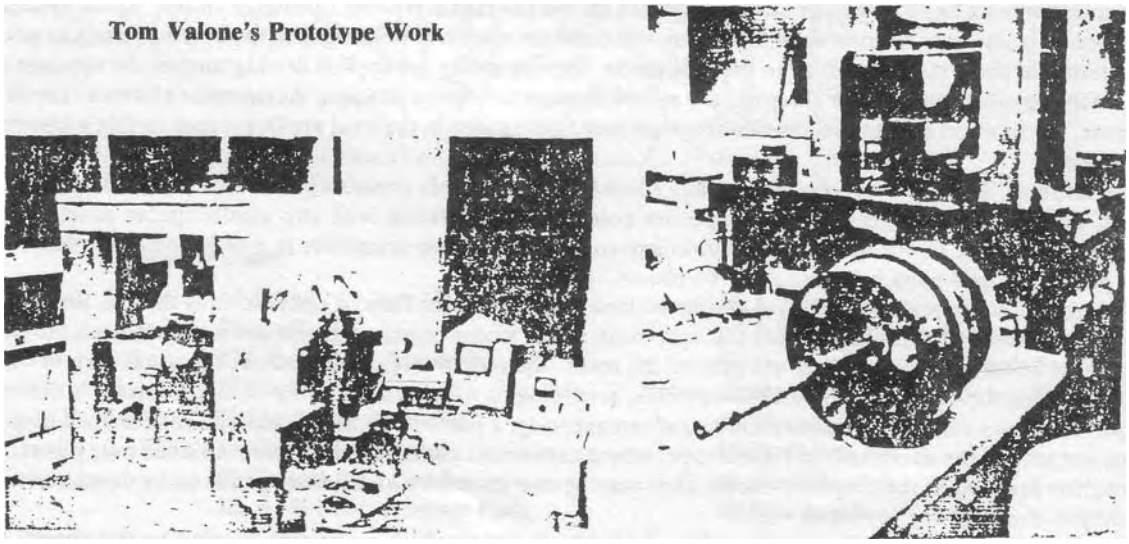
This above action, when joined with the flywheel effect provided by a coupled flywheel explains why the speed of this generator remains substantially unchanged when the output circuit is either opened or closed. As the armature approaches its position of alignment with the gap, the constant magnetic field exisitng there-across tends to accelerate the rotation of the armature relative to the pole pieces, thereby aiding the applied driving torque; the opposite action, ie: a retarding effect occurs after the armature passes through its aligned position. As the rotor attains a certain speed, however, the flywheel effect of its mass overcomes these fluctuations in the total applied torque so that a smooth rotation ensues.

The magnetic flux path includes two axially spaced magnetic fields traversing the rotor axis sustantially at right angles, these fields being generated by respective pole pairs co-operating with two axially spaced armatures of the character described. It will be generally convenient to arrange the two armatures in a common axial plane, the two field producing pole pairs being similarly co-planar.

The armatures are preferrably of the laminated type to minimize the flow of eddy currents therein, thus, they may consist, in essence, of highly permeable (eg: soft iron)) sheets whose principal dimension is perpendicular to the rotor axis. If the ferromagnetic elements are part of the rotor, the output circuit will include the usual current-collecting means, such as slip rings or commutator segments, according to whether alternating or direct current is desired. The source of coercive force in the stator includes, advantageously, a pair of oppositely disposed yoke-shaped magnets, of the permanent or the electrically energized type, whose extremities constitute the aforementioned pole pieces. If electromagnets are used in the magnetic circuit, they may be energerized by an external source or by direct current from the output circuit of the generator itself.

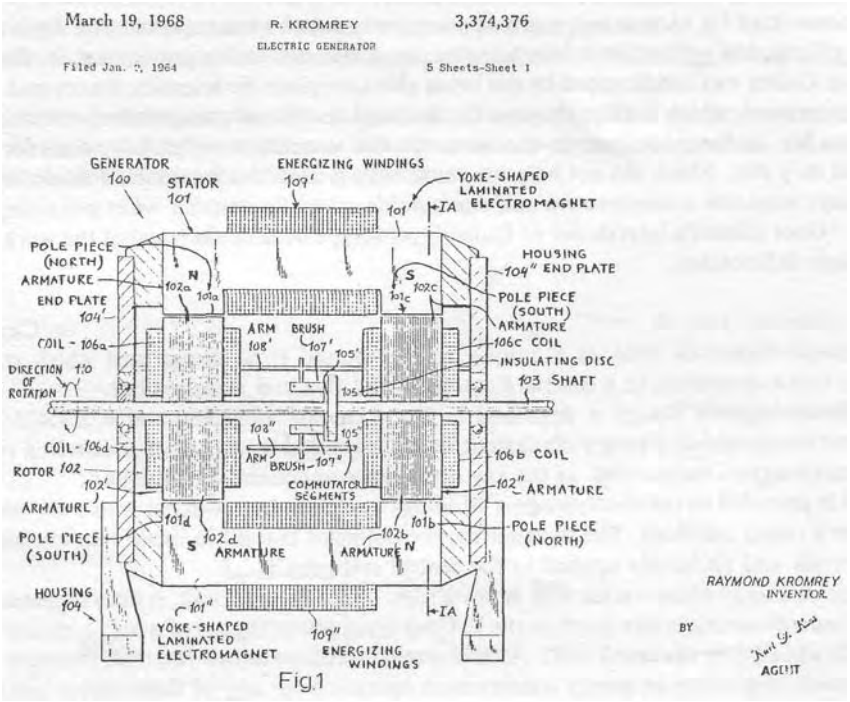
In summation, the converter consists of an input drive motor which is directly coupled to this special type of generator which continues to run under load when the generator is short circuited. In general, the converter can be described as a single-phase motor-generator with a powerful permanent magnet stator and a rotor core of soft iron.


The "N" Effect
+
V
Voltage appears between center and edge.
S
N
-
Rotating Permanent Magnet (Alnico)
FIG. 22-B
THE "N" MACHINE
+
V
S N S N S N S N
-
Bronze Shaft
Two Ferrite Ring Magnets
Conducting Disc
Two Ferrite Ring Magnets


Tom Valone's Prototype Work

The Kromrey electromagnetic converter has reportedly reached an efficiency of about 120%. An increase in current flow occurs under short-circuit conditions with no overheating evident. One Kromrey prototype delivered about 700 watts at a speed range of between 600 to 1200 rpm, which is generally slow for these types of m/g units. Larger units had been planned for five to twenty-five KW range which would have been ideal for home power applications.

One prominent researcher states that the original Kromrey specs-have been altered so that the unit in inoperative, as described.



b) Lawrence Jamison Jamison Energizer System (Verona, Mississippi)

The Jamison Energizer System of 1980-84, is one of several prominent examples of applied tachyon field energy systems, of the several motor-generator arrangements described in this Section.

Although the full details of this high speed motor-generator system were never disclosed, it is known that it is in the motor-generator-battery class, with a very large diode necessary to control the high wattage being generated by the generator. There is no question about this system being valid and operational since a video tape demonstration was provided at the Energy Symposium at Atlanta in 1982. This operating demonstration disclosed the high noise level produced by such a high speed motor/generator system, but clearly showed a fully functional power source.

While this m/g system depends on using a standard automotive battery input, they run at over 100% efficiency with the battery being recharged as they operate under normal load conditions. The striking similarities between the Jamison Energizer System, the Gulley, Stoneburg and Watson systems leaves no doubt as to the basic operability of them, making them all active candidates for further development effort. While Mr. Jamison, (now deceased) claimed that his system was unique at the time, we now know that this was not completely true, although some of his specific components may have been custom made and proprietary, the basic principle of it is now well understood and confirmed.

The Jamison Energizer System was installed and operated in a vehicle (1977 Ford Courier pickup truck), but no operational data is available on its performance.

c) John Gulley - Motor/Generators Gratz, Kentucky

The motor/generator work of John Gulley became the subject of newspaper items in the local Louisville-Courier during the late 1950's and 1960's. During this period he produced a number of operating motor-generator sets which were installed in various type of vehicles.

As a motor/generator specialist while in the U.S. Army, Mr. Gulley carried this knowledge into civilian life, where he developed various types and configurations of motor-generator combinations. These were of the basic battery-recharge type, similar to that of Jamison and Stoneburg.

The exact details of his components were never disclosed, but it is known that he did rewind the fields and armatures of both D.D. motors and generators. It is known that over-unity output operation can usually be achieved by splitting higher-than-normal voltages to satisfy both the load and battery-recharge requirements.

In personal interviews, Gulley did state that his motors were based on the solenoid principle, similar to that of Bob Teal's unit, 7d.

John Gulley demonstrated his various automotive power systems and it was reported that some commercial interest was shown for his efforts, but no further information has been revealed on his present status. There have been some comments made that Gulley was handicapped by not being able to explain the scientific theory and basis for the operation of his motor-generators, which is often the case for the hand-on type of garage-based researcher. Another unfortunate situation, was Mr. Gulley's tendency to choose exotic and sometimes outlandish names for the vehicles equipped with his special m/g sets, which did not help his cause with prospective investors. Researchers should keep this point in mind: always maintain a conservative and explainable scientific position when providing demonstration of new energy devices! Once scientific interviewer of Gulley's prototype became skeptical of the work after a demonstration, because of these deficiencies.

d) Bob Teal St. Cloud, Florida (1976)

The "Magnepulsion" Motor of 1976, is a unique type of pulsed E/M motor unit which consists of multiple solenoids which are crank connected to a central drive shaft and flywheel arrangement.

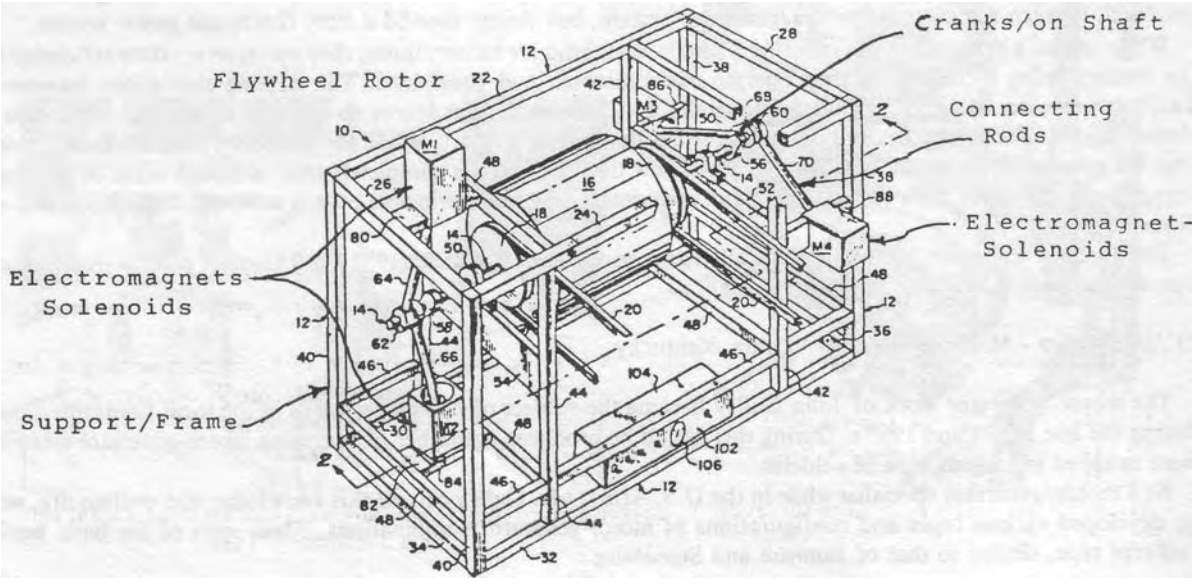
The combined electromagnetic design is described in U. S. patents 4,093,880 and 4,024,421, as a magnetically operated power plant comprised of a rotary crankshaft which is rotated by means of connecting rods, pivoted to the sliding cores of electromagnets-(solenoids), as the key actuating component(s) of the unit.

Electrical current is provided to the electromagnet windings by distributor switches which are successively actuated by multiple cams on a timed camshaft. The switches receive pulses of current in timed relationship, so that solenoid thrusts are continuously and uniformly applied to the central crankshaft.

Although this type of energy conservation unit is not a true:-"free energy" unit, it does represent one of the better and basically simple energy-saving motor (such as the EvGray type) due to the aid of a high positive inertial factor provided by the main flywheel(s) on the crankshaft. As was stated elsewhere in this Manual, flywheel mass is a basically cheap means to support over-unity or energy conservation operation for any of these motor units.

Because of its simplicity, the "Magnepulsion" motor has the possibility to become an effective "over-unity" or free-energy motor when combined with some other type of solid state amplifier device,-or permanent magnet motor (Muller type Unit).

"MAGNEPULSION MOTOR"
(Magnetically Operable Engine/-or Power Plant)
U.S. Pat. No. 4,024, 471



VII. MOTOR-GENERATOR - Candadian Unit of unknown origin

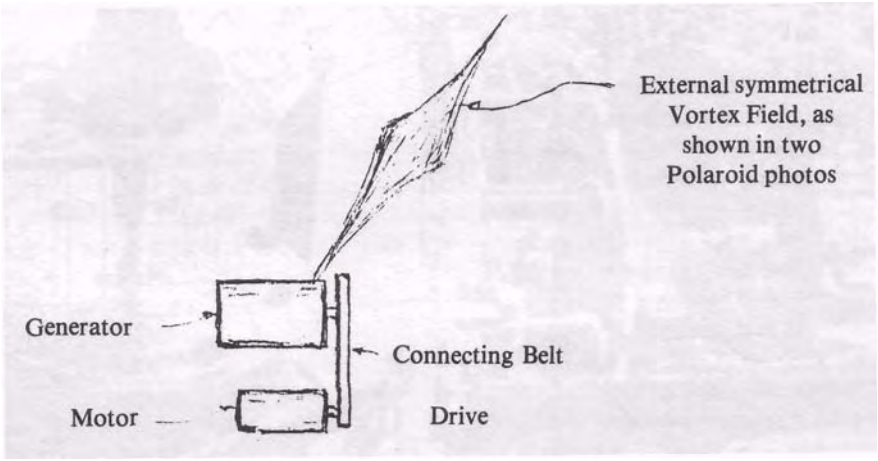
(Visual evidence of External Field Activity adjacent
to an operating M/G system.)

While the exact nature and details of this Canadian motor/generator system are not known, it must be included within this category (7) M/G's because of a unique event that occurred during its operation, during testing.

The inventor(s) of this system are not known, but it is known that he or they, lived in the vicinity of Montreal, and it is known that they were harassed by parties, also unknown. The only clear evidence to the credibility for this project were two Polaroid photos that were taken while the system was in operation.

The party who held these photos was a Mr. Leo Harvey of Montreal, and he did not wish to release these photos for publication.

The following drawing shows the overall arrangement of the system, with the drive motor belt connected to the drive generator. The generator is known to have utilized samarium-cobalt permanent magnets with its field which accounts for the very high field strength of this component.



The two Polaroid photos clearly showed an external symmetrical vortex field at an angle to one end of the generator, as indicated in the drawing. The symmetrical pattern was clear, but there was a misty texture to the field.

This most unusual visual evidence of external field activity was made evident (to the camera, but not to the naked eye) when water spray was dispersed over the operating system. All the components were covered to protect them from direct water spray contact.

Why it was decided to try this experiment is not known, but someone had a hunch about field activity, and the results are striking and worthy of further study. To the best of our knowledge this is the first (visual) evidence of external field activity associated with an operating motor-generator system, and it may be surmised that this is tachyon field activity, although the exact physical nature is still uncertain at this point.

No further information has been received from anyone in Canada, and it must be presumed that this is one more, of many projects, that have gone into limbo!

It has long been suspected that permanent magnets act as "special energy attractors," and this project appears to give support for this contention, and should spur other experiments and tests to further expand on these findings.

e) Jim Watson - Colorado Springs, Colorado

Jim Watson's several operating converter prototypes are generally similar to these other motor-generator systems, but he has also included some useful solid-state control circuitry into his systems, which improve their overall performance and reliability.

One large version of his prototype work is claimed to produce up to twelve KW of useable power output, from an input source of two twelve volt batteries. Because of the electronic circuitry involved in Jim Watson's prototypes, they are generally related to the project work of John Bedini whose work is covered in another section of this Manual.

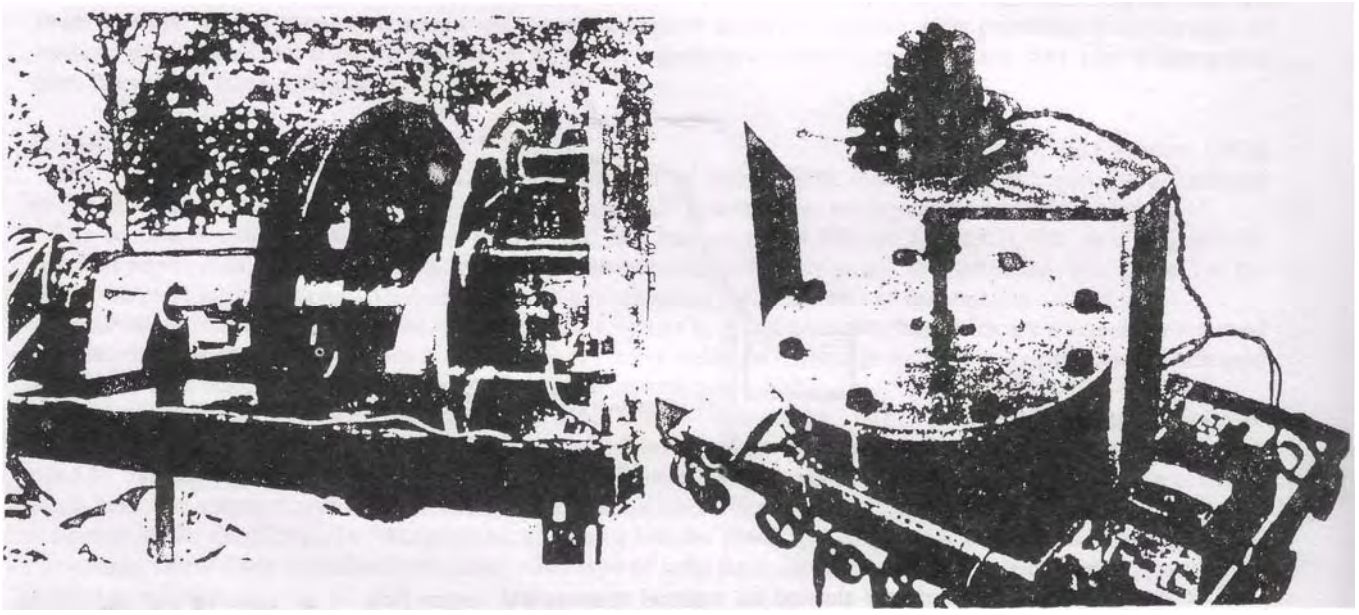
One small, and one large Watson Converter was demonstrated at the Tesla Centennial Symposium in Colorado Springs in 1984.

His smaller unit has proven to be successful by continuous extended runs, and its operation is consistant with John Bedini's rotating mass conversion method. It is now becoming obvious that a number of these combined rotation and

solid state machines operate in generally the same way and convert tachyon field energy due to their rotation-speed dynamics.

As in the case of the other motor-generators described in this Section, Jim Watson's converter continously recharged its batteries (2) as the system operated under its normally rated load.

The larger Watson converter featured a fairly large flywheel (mass) which is consistant with both the Kromrey and Bedini technology, to smooth out the slight irregularities/ie: pulsing which is inherent to these systems, in some cases. It has been reported that the Watson flywheel in the larger machine approached 1000 pounds, but there is no confirmation on this point, and it should be noted that MASS is cheap in these systems, and/or is a most advantageous component.



A big 12-KV Bedini-type converter built by Jim Watson, presented at the Colo-Tesla Centennial Symposium.

Commentary:

The seven machines described in this motor/generator category are enough by themselves to prove the validity of the over-unity-output concept. Of particular significance:-the outstanding Swiss M-L Converter which is a prime example of combined scientific principles and effects to produce self-contained o/u/o operation, with no input/starting power supply!

f) Z. T. Lindsey — M/G Unit - U. S. Pat. No. 2,279,690 (April 1942)

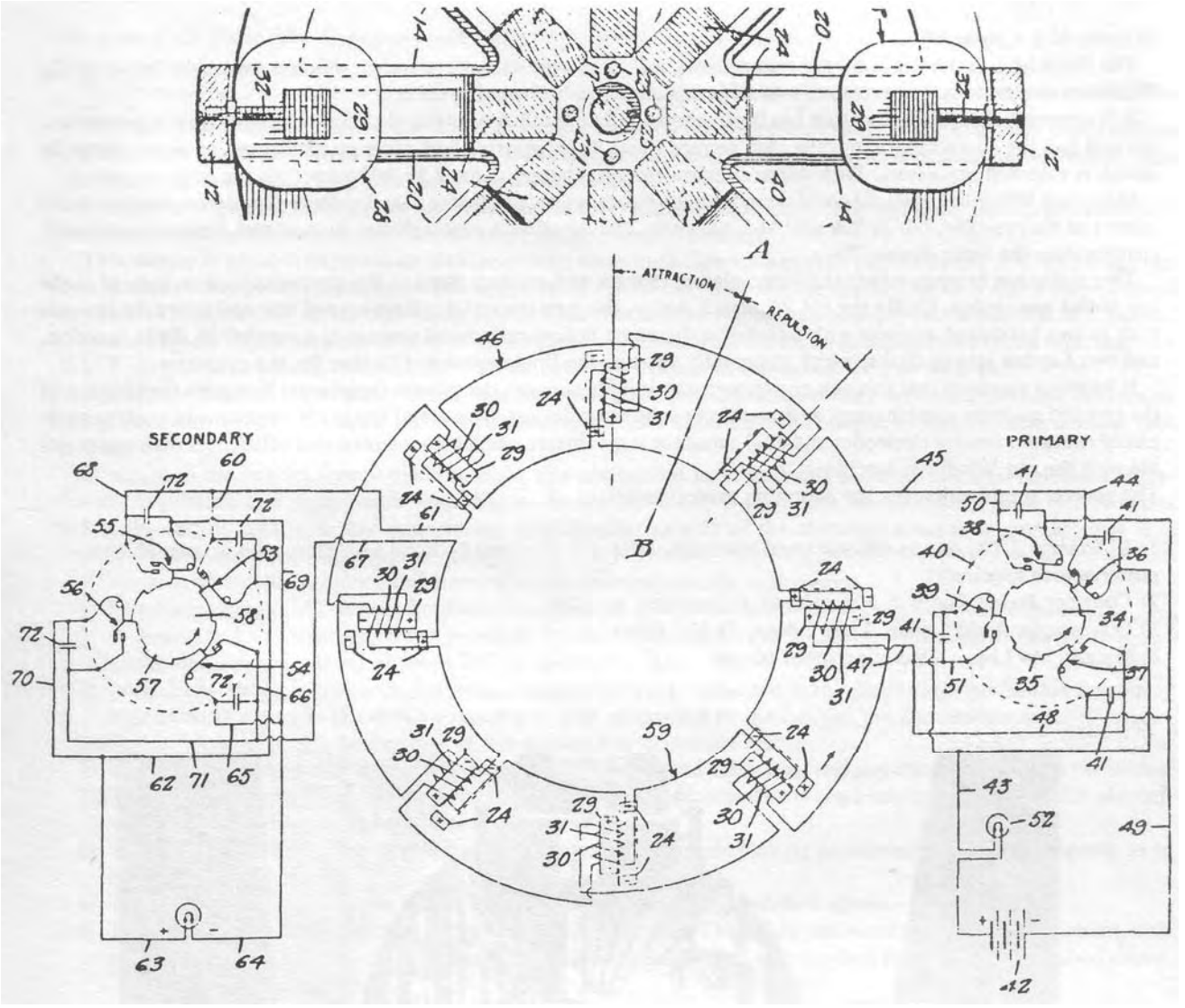
The electric motor art of Z. T. Lindsey relates to a combined motor-generator consisting of permanent magnets secured on a rotor and battery energized coils on the stator (field) component.

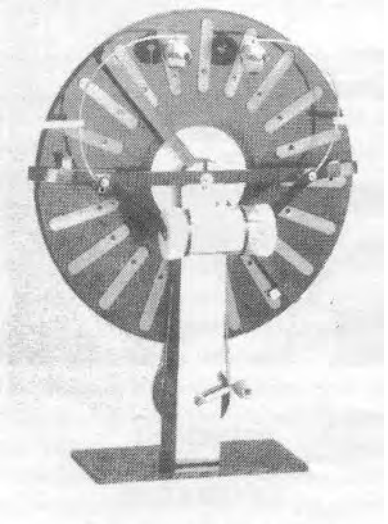
This specific motor/generator design should be considered as an inverted permanent magnet D. C. motor which usually arrays the magnets as the field (stator) magnetic component.

In this M/G arrangement timing breaker points are associated with the field coils so that the polarity of the coils are changed to produce a predetermined travel of the P.M.'s on the rotor, the coils will repel the permanent magnets, and for a like distance the coils will attract the magnet to rotate the rotor.

The present patent art indicates eight rotor P.M's and field coil set which should be considered a minimum number, with a probable maximum of about sixteen depending on the diameter of the M/G set.

Since the permanent magnets are the basic rotor component, the field coil and other wiring requirements are greatly simplified and reliability improved, with no added complexity necessary.





M-L CONVERTER

VII. GENERATOR UNIT (Self-sustaining Type)

h) Swiss M-L Converter

The Swiss M-L converter is a fully symmetrical, influence-type energy converter, which is essentially based on the Wimhurst electrostatic generator with its twin, matched counter-rotating discs.

It is apparent that this unit design has been substantially upgraded over the old Wimhurst electrostatic generators, but still has the characteristic metallic foil sectors which both generate and carry small charges of electricity to be stored in matched capacitors. Each sector accumulates the charges derived by influence with the other sectors.

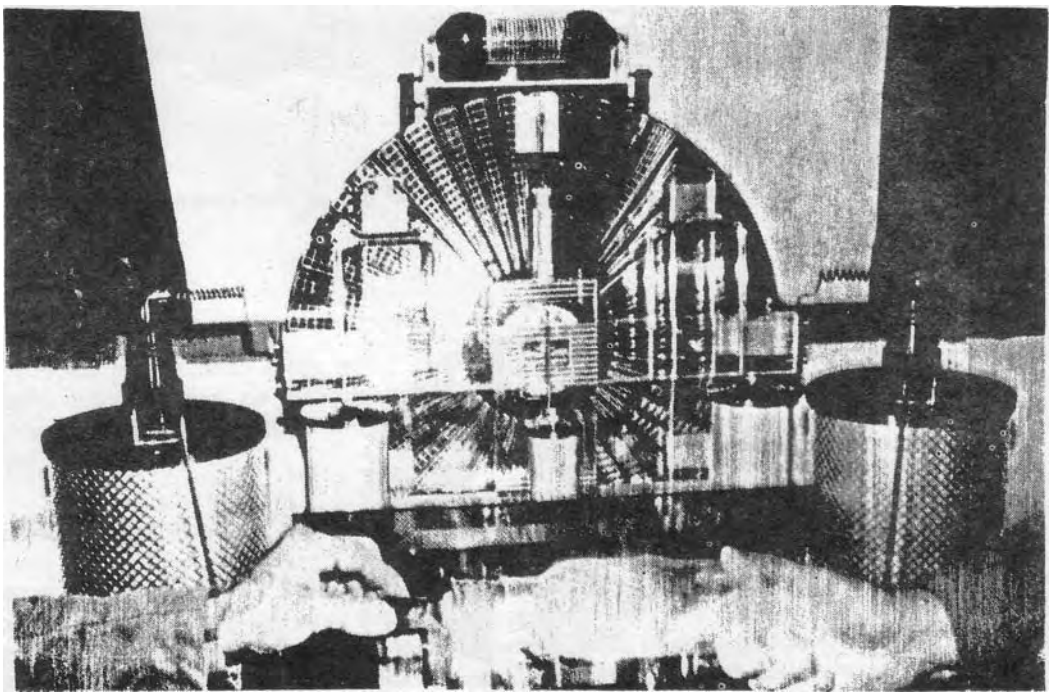
In the old Wimhurst units diagonal neutralizing brushes on each opposite disc distribute the correct charges to the sectors as they revolve, but in this new M-L converter this function is accomplished by a crystal diode at higher efficiencies than the older design.

Two collection brushes collect the accumulating charges and conduct them to the storage capacitor, located at the top of this new design. Unlike the old Wimhurst design, this new converter utilizes several new and improved features such as two horseshoe magnets with matched coils, and a hollow cylindrical magnet as a part of the diode function, and two Leyden jars or flasks, which apparently serve as the final capacitor function for the converter.

It becomes apparent that this new converter susbtantially increases the current (amperage) flow with the addition of the coil and magnets combination, as in the Coler solid-state devices. The use of top grade components, such as gold-plated contacts, control electrodes and dual capacitor stages insure much higher conversion efficiences than was possible with the old Wimhurst machines.

The general specification for the operating prototype are:

1) Efficiency: 1:106, due to self-sustained operation. The unit is started by hand revolving, with no other input power source required!!
2) Constant Power Output: 300 volts @ 10 Amperes = 3KW.
3) Dimensions: 43.31" wide, 17.72" deep, 23.62" high
4) Weight: 44 Lbs. Operating speed 60rpm.



WIMHURST
ELECTROSTATIC
GENERATOR

VII. GENERATOR UNIT (Self-sustaining Type)

Analysis of the Swiss M-L Converter, with multiple electrical circuits.

It is evident that this excellent o/u/o Converter unit is based on the Winshurst electrostatic generator which utilizes

It is evident that this excellent o/u/o Converter unit is based on the Wimshurst electrostatic generator which utilizes multiple steel segments. These Wimshurst E/S generators are made with either steel or aluminum segements, with the aluminum segments being true electrostatic elements.

When steel segments are used on the twin discs of this unit, the Searl Effect is in evidence, with E/M conversion made at the rim/periphery of the discs through passive electromagnets.

This unique o/u/o unit becomes an ideal converter since both high voltage A.C. and moderate A.C. amperage can be simultaneously generated through two separate electrical circuits from the discs. The twin disc's conventional conductive brushes pick-off the high voltage A.C, while the rim electromagnet's coils produce a useful E.M.F. (useful amperage level). When permanent horseshoe magnets with coils are utilized, as in this present Swiss unit, then the E.M.F. output is enhanced to a considerable extent, as is evident in the specs, for this M-L unit.

The self-propulsion, after hand starting, is achieved through the adaptation of the Poggendorff principle (a German scientist of the 1870's) in which slanted conductive brushes produce self-rotation in electrostatic motors, (not generators).

In regard to the special crystal diode module, this component most probably provides the dual functions of frequency regulation and capacitance amplifier — to the two Leyden jars. This special diode-capacitor provides frequency output regulation and capacitance amplification as part of the electrical resonance circuit, since it is connected with the horseshoe magnet coils.

This unit is essentially comprised of three separate electrical circuits, which are:

1) The high voltage A.C. output from the twin discs as a conventional Wimshurst electrostatic generator.
2) A moderate A.C. amperage circuit produced by the dual horseshow magnet coils (Searl Effect) as the plus and minus discs pass by them. (Pulsed D.C. output at 50 Hz.)
3) A rsonance circuit in which the horseshoe magnet coils are connected to the diode capacitor so that frequency regulation is assured. The diode capacitor is then connected to the Leyden jar, transmitter unit.

The major physical principles involved in this outstanding composite unit are:

1) Electrostatic conversion using twin discs for positive output from one, and negative output from the other.
2) The evidence of the "Searl Effect" from the use of multiple, identical steel segments inducing an E.M.F. electromagnets at the discs periphery (rim).
3) The Ecklin principle is also in evidence, since the steel segments pass by permanent horseshow magnets, as in Ecklin's S.A.G. units.
4) The Poggendorff self-rotating electrostatic motor principle, as described above.
5) The crystal capacitance function of the crystal diode module. The full operation of this unique component, with its hollow cylindrical permanent magnet, is a composite component with the dual functions, as described above.

The Swiss M-L Converter, — "A Masterpiece of Craftsmanship and Electronic Engineering".

Members of the G. A.G.F.E. have inspected this Swiss system on five different occasions from 1984 to the present. There are two small units and this presently described larger unit located in a commune near Bern, Switzerland. This machine and the two smaller units have been running on and off since 1982.

The larger machine produces 3 to 4 KW at 230 volts D.C, and apparently extracts energy from the gravity stressing field, and there is no primary propulsion of any kind.

This type of gravity energy field converter confirms perfectly the Bearden and Nieper model of the tachyon field. This is especially true for the considering of charge and mass of the electron to be separate. The converter runs continuously by itself, with only rotating wear parts being the two ball bearings at the center of the two discs.

The M-L Converter is functionally constructed, completely symmetrical with the two discs made of acrylic plastic, a light metal lattice, insulated copper wires, a secret crystal-diode rectifier, and gold-plated electrical connections. Everything is hand-made with the finest craftmanship, with an elegant beauty. The operating principle has been known for a long time, and these machines have been developed over a twenty year time span.

In electrostatic generators, the air molecules between the two acrylic discs which closely counterrotate, side by side, become electrically activated by friction. This causes the discs to be continually charged, until a flashover equalizes them. To limit the electrical voltage to a desired amount, the positive charged particles on one of the counterrotating discs and the negative charged particles on the other disc are each extracted by means of separately adjustable lattice-electrodes, and are fed into a Leyden jar which collects the energy. The speed of the discs, on which a fan-like structure of 50 lattice electrodes are etched out, is 60 rpm. (It is obvious that this discrete ratio of lattice/segments and speed will produce a 50 Hertz, pulsed D.C. output.) This speed is synchronized by magnetic impulses.

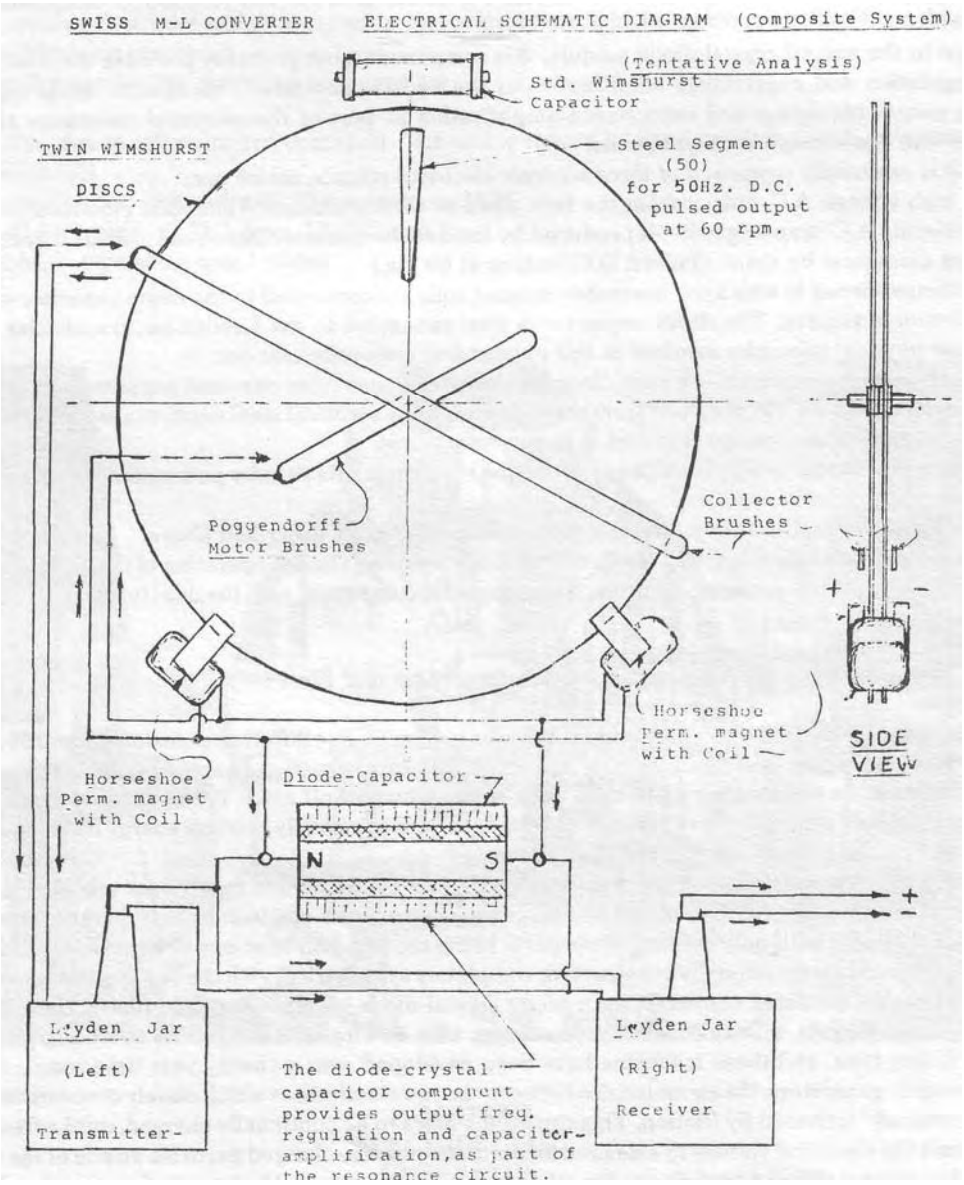
The unit is hand started by revolving the two discs in opposite directions, until the converter was charged up to such a degree that it synchronized itself and continued to rotate smoothly and noiselessly, without any input source of power. A centrally mounted disc of about 4 inches in diameter was glimmering in all the colors of the rainbow. After only a few seconds the Leyden jars were ready for operation, so that 300 volts D.C., with a current of 10 amperes could be extracted at the terminals, and this could be done continuously for hours, or for years, without any wear!

To demonstrate the power available, connections were made to both, alternately, a high power incandescent lamp or a heating element, each of which was rated at 380 volt service. The brilliant light from the lamp was blinding, and completely illuminated the hall to the furthest corner. The heating element became so hot, after a few seconds, that it could not be touched.

This experience was certainly a look into the future for all of us, and the start of a new era! It became evident for everybody who saw this converter functioning, that the teachings of orthodox science must undergo a complete revision in order to be taken seriously.

(The fundamental law of physics, according to Robert Mayer of 1842, is "The sum of all energy forms is constant.") Today there are already dozens of known violations of the orthodox energy laws.

This project work represents international science at work, in it finest form, which will become the wave of the future!!



Note: The two Leyden Jars are also a part of the resonant circuit, since one is a transmitter (Sir Oliver Lodge's experiment) and the other is a receiver and function at the same resonant frequency.

VIII. CAPACITIVE DISCHARGE MOTOR

Edwin Gray - Capacitive-Discharge Units U.S. patent No. 3,890,548 (Northridge, Calif.) 1975

The Ed Gray capacitive-discharge type of electric motor is a unique arrangement of both rotating and field electromagnets, which are energized by the discharge of capacitors and precisely timed intervals and at relatively high voltages.

The electromagnetic coils are wound so that both the fixed and rotating electromagnets are in offset repulsion mode, with multiple stator groups (nine or more) and rotor stations - (six or more) assuring continuous smooth rotation of the rotor. The motor requires a D. C. battery in-put source which is transformed into high voltage for storage in the capacitor component(s).

This type of over-unity electrical machines falls into the compound class of unit, since it is both an electrical conservation type of unit due to the capicitance feature (storage and H.V. discharge and tachyon field converter due to the high voltage, high speed mode of operation.

The timing of the high voltage discharges into the electromagnetic coils is achieved through spark gaps at the optimum offset position, (juxtaposition) between the rotor and stator electromagnets.

Although fairly complex in construction due to dove-tail grooving required to securely lock in both the field and rotor electromagnets, and several auxiliary components, the motor operates at high efficiency and is quite unique in the compound class of battery-motor systems.

The capacitive/-discharge concept is a very desirable feature for any type of compound electromagnetic motor/generator, as an energy conversion method, and it can be shown how such a concept produces an over-unity output for the unit/system. It is possible that Ed Gray's basic capacitive-discharge concept and motor construction can be made in a simplified form, without the complexity of the dove-tail construction, as indicated in the accompanying drawings. One, or two piece rotor/stator construction is probably not feasible, but some other type of multi-piece construction may be evolved into a practical arrangement, which would also save construction costs.

Edwin Gray, and his former company EV-Gray, Inc, is a prime example of excellent scientific and engineering effort falling by the wayside because of his work running counter to the commercial establishment's status-quo. If economic apple-carts are not to be upset, it is necessary for the vested interests to squelch such work as "c" Gray's, just as was done in the earlier cases of Tesla, Moray, Schauberger, Searl, and many others in this field.

Ev Gray's work is now in obsurity, but its basic value is evident and should again be reintroduced as a viable contender among the various new emerging energy sources.

There is no known engine or motor operating on the principle of this present invention, that of a capacitor charged to a relatively high voltage from a low-voltage D.C. source. The spark discharges across a spark gap to provide current through the motor drive coils in the discharge path these being solenoids which generate motion by magnetic repulsion of juxtaposed pairs of cores. The solenoids are preferably configured in motor stator assemboles to affect motion of the rotor element with respect to the stator.

This unique motor utilizes this principle to provide a rotary motion machine which can develop considerable torque through the magnetic repulsion action of the rotor and stator cores wound with coils through which capacitors are discharged synchronously with the positioning of the rotor coils opposite particular stator coils.

It is stated this present invention operates on the principle conservation of energy, and therefore cannot be considered a true "free-energy" unit.

IX. Motor/Generator/Transformer - Robert Alexander U. S. Pa. 3,913,004 1975

The U. S. Patent of Robert W. Alexander (No. 3,913,004), is unique in the motor/generator class of units, since it combines the basic motor/generator scheme with transformer action within the field windings. The following patent abstract description provides a concise understanding of this unit:-

"A form of rotating machine arranged in such a way as to convert a substantially constant input-voltage into a substantially constant output voltage; involving generally a rotor that revolves at substantially constant speed within a stator and which comprises a transformer core subjected to and having a primary motor-transformer winding and a secondary transformer-generator winding; whereby transformed and generated power are synchronously combined as increased power output."

The summary of this combined motor/generator/transformer per U. S. Patent 3,913,004, is as follows:- This method involves the placement of a primary winding in a field to both motor, to have a transformer effect with respect to a secondary winding, and in the field to have a generator effect. This dynamo-electric converter is comprised of primary and secondary windings combined in a rotor commutated to alternate a D.C. energy source in and thereby motivate the rotor within a stator field.

The primary winding is advantageously of fewer turns than the secondary and by means of electromotive force drives the secondary windings of more turns to cut the magnetic lines of force for the generation of electrical energy at a higher voltage level than the D.C. supply.

United States Patent [19]

Gray

[11] **3,890,548**

[45] **June 17, 1975**

[54] **PULSED CAPACITOR DISCHARGE ELECTRIC ENGINE**

[75] Inventor: **Edwin V. Gray**, Northridge, Calif.

[73] Assignee: **Evgray Enterprises, Inc.**, Van Nuys, Calif.

[22] Filed: **Nov. 2, 1973**

[21] Appl. No.: **412,415**

[52] **U.S. Cl.** **318/139**; 318/254; 318/439; 310/46

[51] **Int. Cl.** **H02p 5/00**

[58] **Field of Search** 310/46, 5, 6; 318/194, 318/439, 254, 139; 320/1; 307/110

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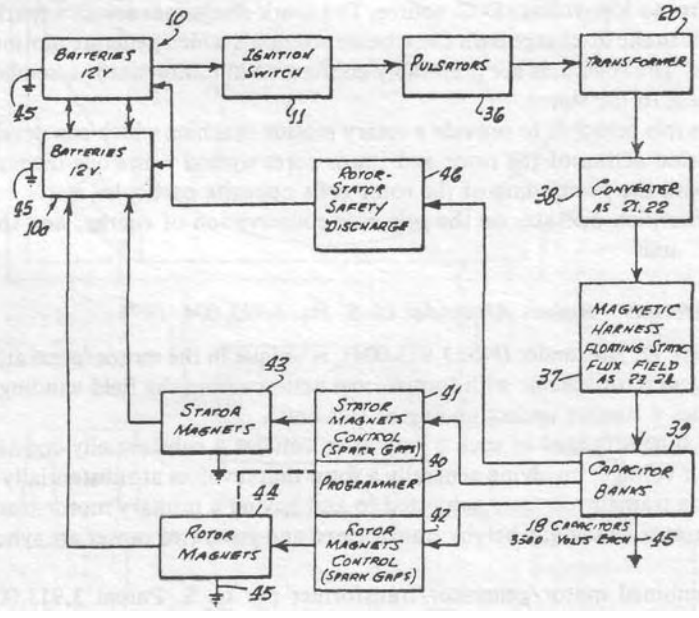
Primary Examiner—Robert K. Schaefer
Assistant Examiner—John J. Feldhaus
Attorney, Agent, or Firm—Gerald L. Price

[57] **ABSTRACT**

There is disclosed herein an electric machine or engine in which a rotor cage having an array of electromagnets is rotatable in an array of electromagnets, or fixed electromagnets are juxtaposed against movable ones. The coils of the electromagnets are connected in the discharge path of capacitors charged to relatively high voltage and discharged through the electromagnetic coils when selected rotor and stator elements are in alignment, or when the fixed electromagnets and movable electromagnets are juxtaposed. The discharge occurs across spark gaps disclosed in alignment with respect to the desired juxtaposition of the selected movable and stationary electromagnets. The capacitor discharges occur simultaneously through juxtaposed stationary movable electromagnets wound so that their respective cores are in magnetic repulsion polarity, thus resulting in the forced motion of movable electromagnetic elements away from the juxtaposed stationary electromagnetic elements at the discharge, thereby achieving motion. In an engine, the discharges occur successively across selected ones of the gaps to maintain continuous rotation. Capacitors are recharged between successive alignment positions of particular rotor and stator electromagnets of the engine.

18 Claims, 19 Drawing Figures



United States Patent [19]

Alexander

[11] **3,913,004**

[45] **Oct. 14, 1975**

[54] **METHOD AND APPARATUS FOR INCREASING ELECTRICAL POWER**

[75] Inventor: **Robert W. Alexander**, Pasadena, Calif.

[73] Assignee: **Alex**, Pasadena, Calif.

[22] Filed: **Nov. 18, 1974**

[21] Appl. No.: **524,556**

[52] U.S. Cl. **321/28**; 321/50

[51] Int. Cl.[2] **H02M 7/64**

[58] Field of Search 310/113, 165; 321/28, 29, 321/30, 31, 48, 49, 50

[56] **References Cited**

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Primary Examiner—William M. Shoop

[57] **ABSTRACT**

A form of rotating machine arranged in such a way as to convert a substantially constant input voltage into a substantially constant output voltage; involving generally a rotor that revolves at substantially constant speed within a stator and which comprises a transformer core subjected to and having a primary motor-transformer winding and a secondary transformer-generator winding; whereby transformed and generated power are synchronously combined as increased output power.

27 Claims, 3 Drawing Figures

FIG. 1.

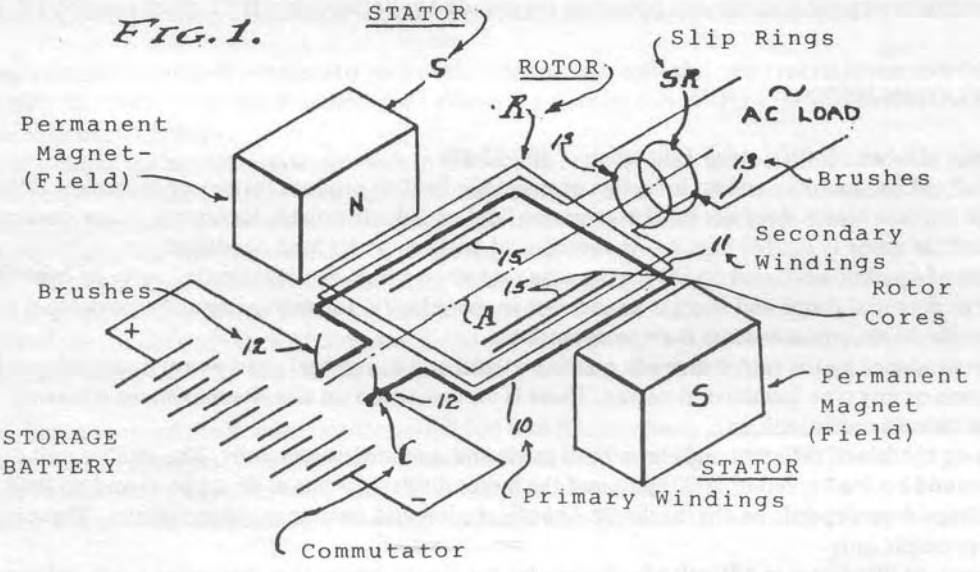
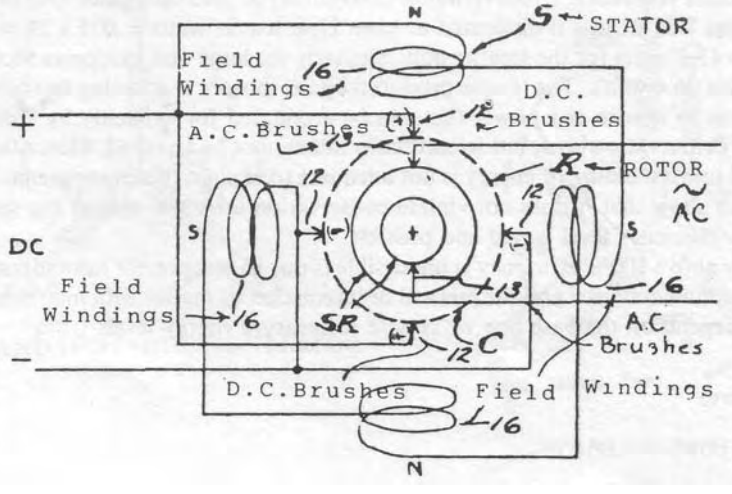


FIG. 2.



MOTOR/GENERATOR UNITS

This D.C. operated motor is shunt wound with the stator field coils fully energized by the D.C. energy source, or is provided with permanent field poles, to effectively motivate the rotor and efficiently generate electrical energy in the secondary windings.

The A.C. output of the secondary windings is inherently synchronized with the transformer function of the primary windings, combined in the common slots of the single rotor, and by adding the transformer and generator voltages and amperages, the wattage is correspondingly increased at the output.

Background:

Electrical power is frequently changed in voltage, phase, frequency, and the current from alternating to direct, or from direct to alternating. Voltage conversion in A.C. circuits is usually by means of transformers, and in D.C. circuits is usually by motor-generators. Phase conversion is also accomplished by either transformers or motor-generators, and frequency conversion is most simply done by motor-generators. Motor-generators have various classifications of use, as follows:-1)D.C. to D.C.-used to charge batteries and to boost voltage, 2)A.C.to A.C.-used for frequency and phase conversion, 3)A.C. to D.C. used for all types of service, as battery charging, generator and motor field excitation, railways, electrolysis, and speed control, etc. and 4)D.C. to A.C. used to limited extent for special applications.

To these ends combination motor generators have been built, such as dynamotors stepping up D.C. voltage for radio equipment and amplidynes for reproducing a weak signal at a higher power level. When a particular variable frequency A.C. is required of a motor-generator set and the power sypply is D.C, the equipment will include a D.C. motor for variable speed and a separate alternator driven thereby. Such equipment is special in nature and characterized by separation of the motor and generator and by polyphase) (usually three phase) generator windings and with auto-transformers having suitable taps for obtaining the required voltages, and a D.C. speed controller for the motor.

X. CONSERVATION MOTORS

G. Srinivasan, Dubai, United Arab Emirates (01-12-87)

Presently all electric motors need an inductive or magnetic field to produce torque when current flows through it.

The charge impulse motor does not need a magnetic field or inductive field. Hence the motor does not produce a back-EMF and its speed is limited only by its mechanical friction, at no load condition.

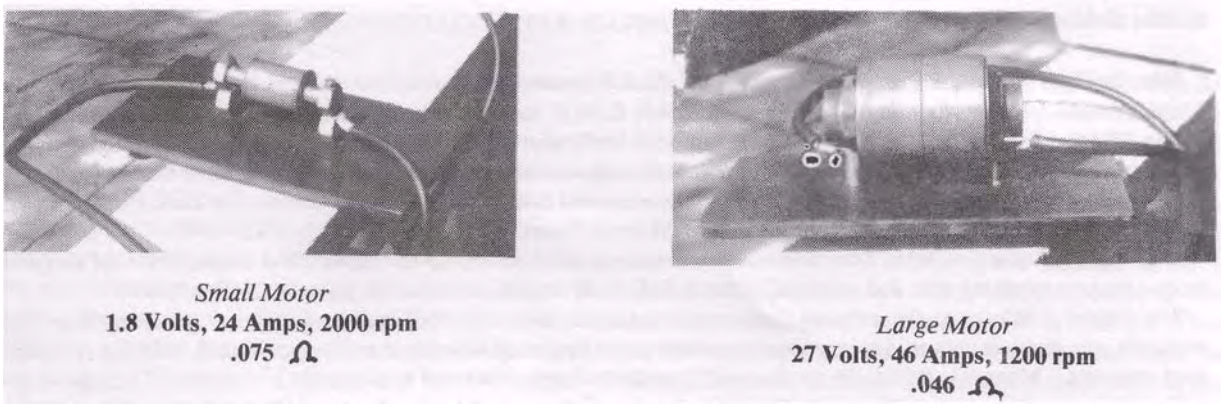
Its principle of operation is based on the phenomena that when a high density electric charge or current is "expanded" the charge potential drops and there is an increase in the velocity, imparting impulse, momentum or thrust. The process is similar to an impulse steam turbine operation.

The torque produced by the motor depends on the material and its internal geometrical configuration but needs no coils or magnets or any type inductive elements. There is no restriction on size. Its maximum efficiency is at D.C. or undirectional current conditions.

Two working models of different sizes have been made and operated successfully. The smaller unit drops 1.8 volts at 24 amperes and no load speed of 2000 rpm, and the larger drops 2.1 volts at 46 amperes and no load rpm of 1200 rpm. The voltage drop depends on the mechanical configuration and resistance characteristics. These models are for proving the principle only.

The efficiency of this motor is difficult to calculate for the simple reason that the torque produced is not accounted for in terms of energy loss or usage, when an energy balance study is carried out. It has no EMF or electrical reaction. The motor has no internal ohmic resistance, (from terminal to terminal) of .075 ohms and .046 ohms, for the smaller and larger motors respectively. The RI loss is dissipated as heat. Heat loss in watts = .075 x 24 = 43.2 watts. Power absorbed in watts = 24x1.8 = 43.2 watts for the smaller unit. Similarly the large unit dissipates 96.6 watts as RI losses, and the power absorbed is also 96.6 watts. The torque produced by the motors in spinning its rotors at 2000 and 1200 rpm respectively, do not seem to absorb any power that can be accounted for explicitly by voltage measurements, which seem to violate energy conservation laws; but scientifically this cannot be accepted. Hence the only conclusion is that our present concept and understanding of energy is not adequate to explain this phenomena. I have a reasonable and consistent explanation to show that it does not violate conservation laws and also at the same time prove that energy above unity or 100% efficiency level is real and possible.

The contention that energy above 100% efficiency is impossible is due to our present misunderstanding of the basic behaviour of matter at its fundamental level and the method of interaction of matter with matter in producing energy. The 100% efficiency levels depend on the base line we choose to measure energy levels from.



C. Wanlass - Energy Conservation Motors

The energy saving electric motor developed by Chris Wanlass improves the operating economy of motors in several ways.

a) Conventional electric motors lose efficiency by being unable to regulate the volume of iron laminations which become magnetized. In the Wanlass motor design the volume of the iron laminations and windings closely match the required pulling torque on the motor, with no unnecessary iron volume being magnetized.

The coil winding configuration around the laminations is also critical to this balanced EMF-to-magnetization effect.

b) By adding a second set of coils adjacent to each of the normal field coils this new type of motor avoids back-EMF (per Lenz's Law). The addition of these second coils allows the normal current flow to be unrestricted by the back-EMF and thus improve efficiency.

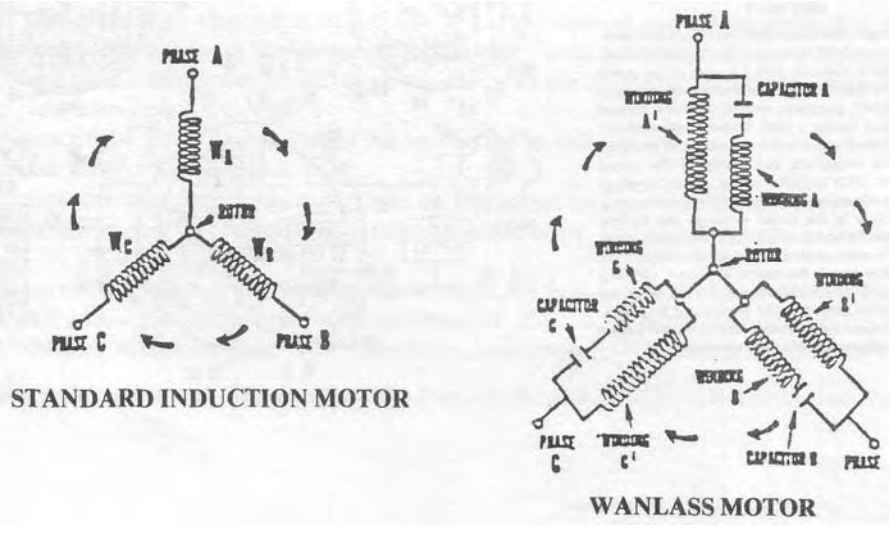
In the Wanlass motor the amount of copper wire in the second coil windings is much different than in the first coil windings. Both sets of windings, in conjunction with a capacitor, produce two different magnetic fields that compliment each other, rather than the usual conflict between the input current and the back-EMF.

The back-EMF is shunted into the second coils as current, thereby causing less electricity to be required from the original source. The transfer of electrical flow from the first winding(s) to the second set smooths out the energy flow within the motor to generally increase efficiency and produce lower heat losses.

The addition of the capacitor in each of the second coil windings provides a current storage factor for higher starting torque plus producing the difference in the magnetic fields between the two field coil sets, as previously mentioned.

Experts who have examined the Wanlass motor design feel that it is extremely complex and involves an alteration of some basic motor design concepts. One engineer who examined the motor design said that "I wish I'd thought of it."

The Wanlass motor design has offered to a number of major motor manufacturers in the U. S. but negotiations have been halted due to some unreasonable demands made on Mr. Wanlass on licensing arrangements.



XI. VARIABLE RELUCTANCE GENERATORS

a) John Ecklin Alexandria, Virginia & FLUX SWITCH ALTERNATOR

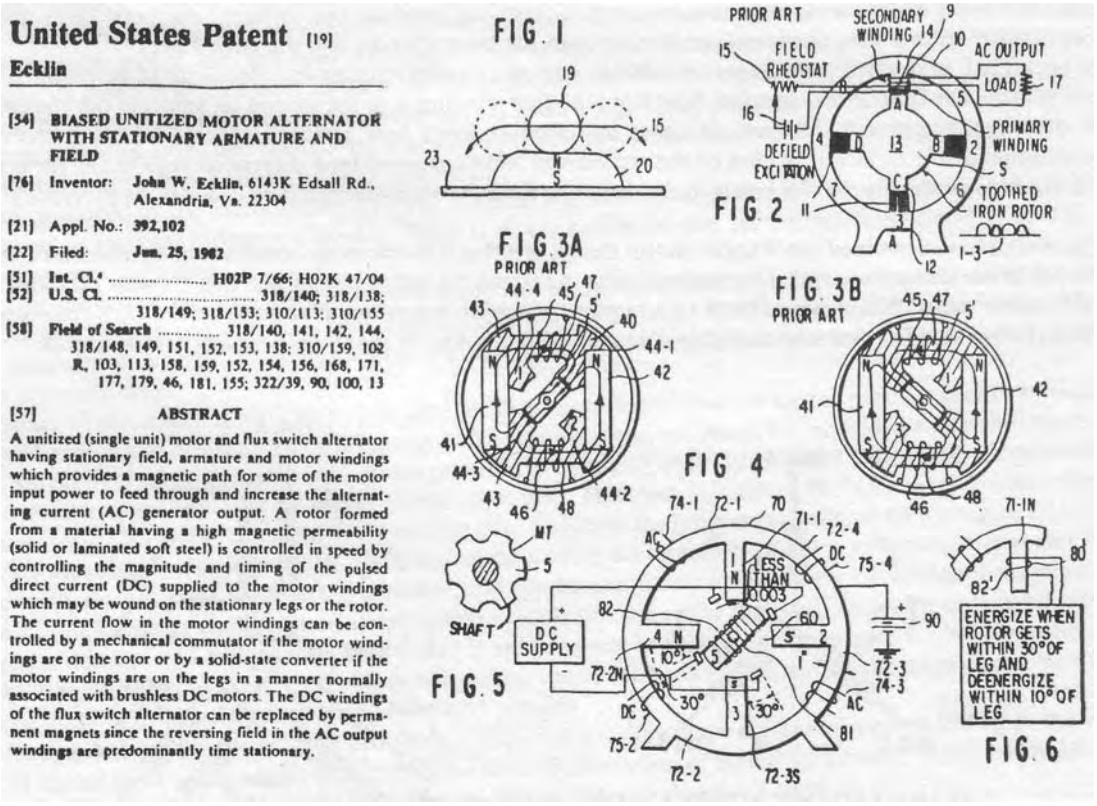
John Ecklin's "stationary armature generator" (S.A.G.) concept has inspired and produced a variety of spin-off designs, based on the principle of circumventing back E.M.F. as established by Lenz's Law.

The 1975 Ecklin U.S. Patent No. 3,879,622, spurred interest in his concept which essentially comprised of spinning a soft iron sheild or shutter between two permanent magnets thereby interrupting the magnetic lines of force. The shields serve to reverse the magnetic within stationary central coil, and thereby circumvent the back-EMF per Lenz's Law, to produce an increased electrical output yield from the coil.

These units, known as SAG's or stationary armature generators led to the design and construction of larger and more effective types of unit and eventually the V.R.G.'s or variable reluctance generators/alternators.

The Patent Abstract to the original Stationary Armature Generator outlined as follows: "A permanent magnet motor in one embodiment utilize a spring-biased reciprocating magnetizable member positioned between two permanent magnets. Magnetic shields in the form of rotatable shutters located between each permanent magnet and the reciprocating member to alternately shield and expose the member to the magnetic field thereby producing reciprocating motion. A second embodiment utilizes a pair of reciprocating spring-biased permanent magnets with adjacent like magnetic poles separated by a magnetic shield which alternately exposes and shields the like poles from the repelling forces of their magnetic fields."

The V.R.G. generally consists of alternate A.C. and D.C. field windings, with the smaller D.C. input producing a large A.C. output which can be utilized for a variety of load devices. These units have reached an input to output ratio of approximately 3:1, with further development work continuing. Both here and abroad (Denmark) and R & D effort is moving ahead on these V.R.G. units.



XI. VARIABLE RELUCTANCE ALTERNA TOR

John Ecklin - Flux Switch Alternator U. S. Pat. No. 4,567,407

The patent number for the bottom of the previous page is 4,567,407 and it was granted on Jan. 28, 1986. Fig. 3A and 3B depicts how the magnetic fields are reversed in both AC output coils simultaneously. The preferred embodiment for Fig. 4 is to have no windings on the rotor (5). The rotor is then made up of steel laminations. This is what in the 1890's was called a flux switch alternator. It had no brushes in this century old technology.

Patent 4,567,407 combines this old technology with the newer electronically commutated motor controllers. Sensors determine the position of the rotor and increse the saturation of the stator from 80% to 98% to pull the rotor in faster than normal. This gives a motor action and since the saturation of the stator is increased the required power is automatically captured by the AC output coils. Fig. 1 demonstrates the principle. 19 is a 3/8ths inch diameter ball bearing on top of a 1/2" diameter by 1/4" thick ceramic button magnet resting on a horizontal steel surface 23. When the ball is pulled to the edge of the magnet and is released you will see a highly damped oscillatory motion. Turn the magnet over and you see the same thing. The ball is equivalent to either rotor pole and the magnet is equivalent to any stator pole. In other words the patent pulls the rotor to the stator and you no longer have to use input torque to force the rotor to the stator. This is how you skirt Lenz's Law compared to all of today's Faraday generators.

If you tie a very springly (high steel content) paper clip to a 6" thread you can actually see the source of the energy which is unpaired electron spin in iron atoms. With practice clip can lift ball from magnet in less than l/10th of a second and will hang there for 50 years and more. How can we store enough energy in the clip in 1/1 Oth second to keep the ball from falling for 50 years? We can't. The energy is already in the iron atoms of the crystal or clip. The magnet merely sets the direction of spin of most of the 4 unpaired electrons in most of the atoms in the clip. As long as the clip and ball stay together these electrons keep spinning in the same direction. If you ever separate the clip and ball you will have to use the magnet again before clip will lift ball.

Since all electrons in all atoms spin on their axis with the same angular momentum each one is an infinite source of energy. I call this God's perfect flywheel. Something about his atoms always keep the electrons spinning at the same rate. This patent is an over-unity device from the standpoint of torque but it is way, way under unity when we consider the energy in electron spin. This atomic energy as we do not change the atom eternally by splitting or joining atoms as in fission and fusion which are nuclear energy and very polluting.

b)Paul Brown, Bliss, Idaho (June, 1982)

Paul Brown, as an independent researcher, has accomplished some significant project work in the area of John Ecklin's original S.A.G. concept, by expanding on the basic principles involved in the functioning of the S.A.G.'s.

His Magnetic distributor Generator, which is also known as a Variable Reluctance Alternator, consists of utilizing both D.C. input coils and A.C. output coils wound on 90 degree crossed laminations. The iron laminations are in the form of an exact ninety degree cross-over so that exactly opposite North-South magnetic poles are established, as in normal two-pole D.C. motor design.

A split iron and aluminum rotor provides the alternating make and break magnetic circuits between the D.C. and A.C. iron laminations, and their corresponding D.C. and A.C. coils, respectively. When the matching arms of the rotor close the gap between the stator laminations, a magnetic flux flows through the closed circuit, which causes E.M.F. flow within one set of (A.C.) of coils, which are opposite to each other.

As the rotor is turned through ninety degrees, this magnetic gap opened and the magnetic flux and corresponding E.M.F. in the coil cease. Since the iron laminations with their D.C. coils are energized by a D.C. input, this D.C. input is converted (through basic transformer action) to an A.C. flow by the uniform making and breaking of the A.C. iron laminations and their associated A.C. coils.

The characteristics of the Variable Reluctance Alternator are as follows:

l)Voltage increase with an increase in R.P.M.

2)Voltage increases with the number of turns of wire on the output coil (per transformer theory). (The project work of R. Alexander teaches us that it is advantageous to increase the turns, and hence voltage, in the output coil. Section VI, (c).

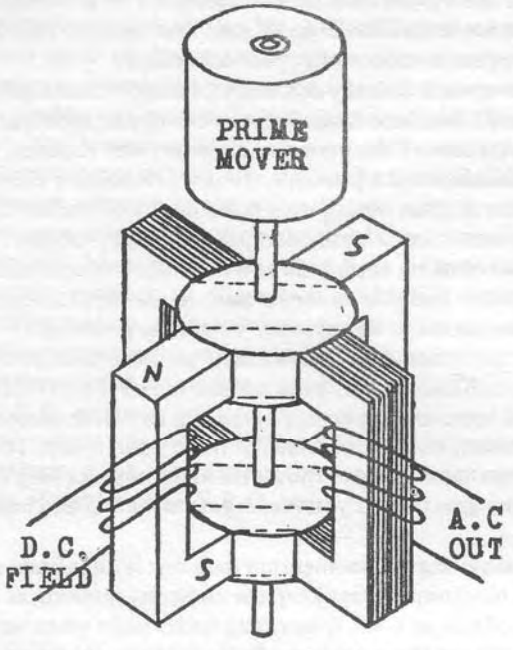
3)Power increases with an increase in magnetic field strength. (A function of the wattage of the D.C. input E.M.F.)

4)When compared with conventional generators/alternators, there is no counter-torque on the rotor.

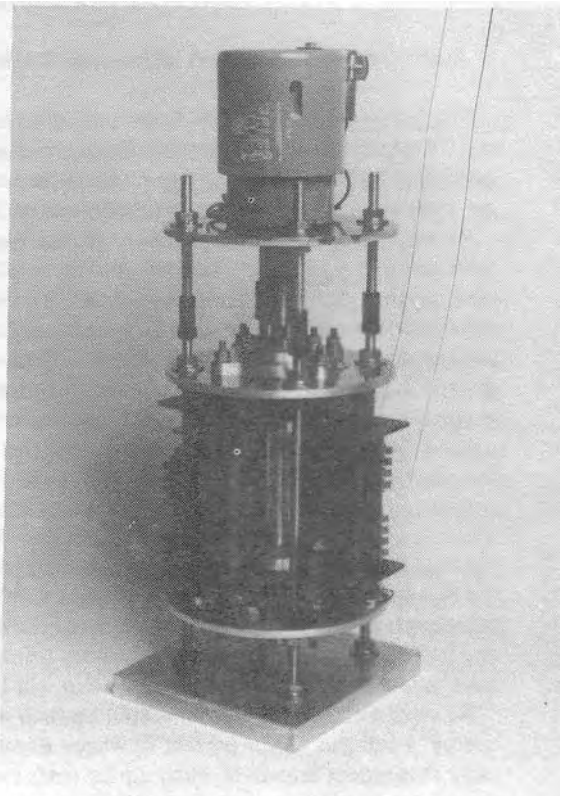
5)Very high efficiency, when compared with conventional generators. The recorded efficiency is: 125%.

For more information see Paul Brown's article titled — The Moray Device and Hubbard Coil were Nuclear Batteries on page 121.

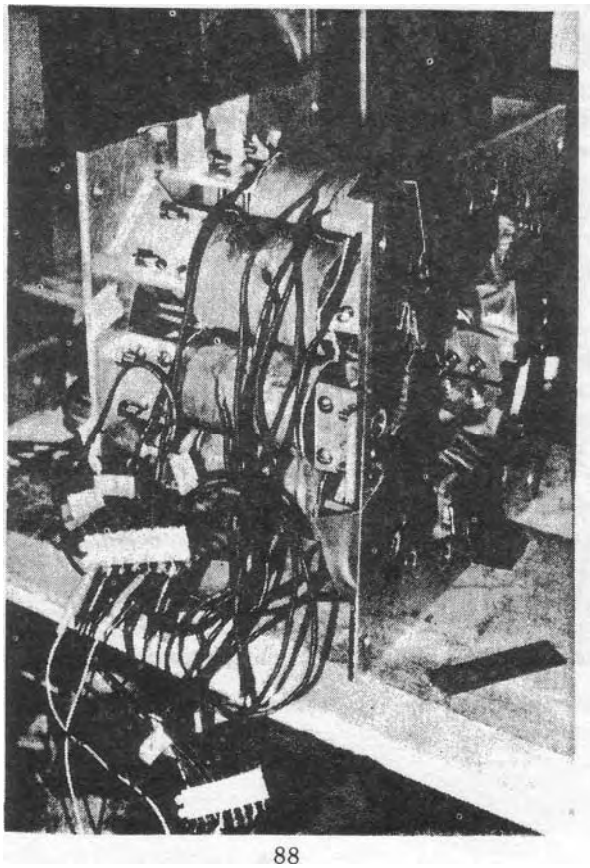
Paul Brown's Project Work



N Note solid core in D.C.
f field coils.



DIMENSIONS AS ASSEMBLED



Variable Reluctance Generator

c) BYRON PECK —Seattle, Washington, 98121

Byron Peck, chairman of the All Source Group has been active in reviewing, publicizing and developing "fuelless power" units for many years. Presently he is conducting research and development on mechanical and solid state devices which utilize Variable Reluctance and Over Unity Output.

He is now at the bench testing stage on two models and states that important factors on the design of coils and how they are parametrically coupled in a device are now being evolved. Tuning a device to resonance is very critical.

The coils for the devices under development are custom, hand-wound which is a very time consuming process but is necessary to provide the required E.M.F./magnetic field matching. The project work is continuing along the lines as described in 2), above. Paul Brown has provided technical support for this project, in the area of procedures for coil testing and their placement in the device.

One of the units presently under development began as a mechanical device having two rotors. During one of the bench tests, the rotors were stationary and power was fed to the input coils. The result was an output that was 300% higher than when rotors were spinning. The rotors were then removed and the device is now being developed as a solid-state model.

You can obtain a free catalog and journal by writing to: Byron Peck, 2318 2nd Ave # 12, Seattle, WA 98121.

XII. PERMANENT MAGNET-/ELECTROMAGNETIC MOTORS

a) Kure-Tekko Co. (Japan)

The Kure-Tekko compound permanent magnet/-electromagnetic motor is a most unique and ideal combination of E/M and P/M functioning in an evenly matched, high speed motor hybrid arrangement.

It now seems to be apparent that the basic value and unique matching of these E/M and P/M functions has escaped the attention of most free-energy engineers and scientists, and such an approach should be reconsidered as worthy of further study.

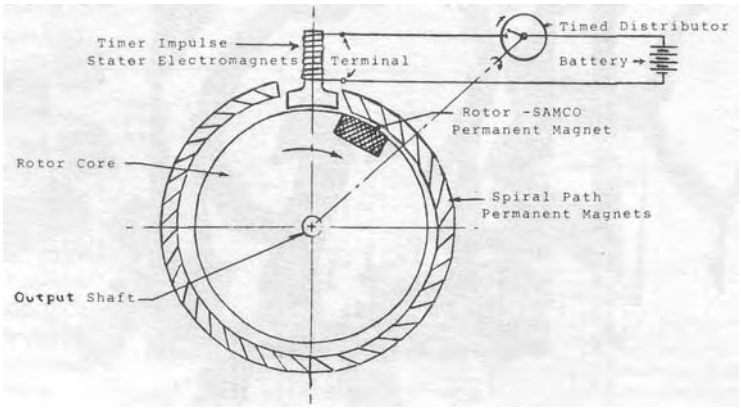
The combined unit consists of a high induction permanent magnet (samarium-cobalt P/M) is located within a plain rotor component which is given an initial rotating impulse by a precisely timed electromagnetic given an initial rotating impulse by a precisely timed electromagnetic station which may be slightly offset from top-dead center of the stator.

The most unique feature of this design (P/M section) is the novel uniformly opening spiral path of permanent magnets arrayed as the stator of the unit. This uniformly diminishing repulsive magnetic path directly interacts with the SAM P/M segment, causing a rotational "squeeze" on the rotor, so that it revolves rapidly. Another way to consider the reaction is that rotor's P/M segment is forced to revolved from a higher, magnetic repulsive potential to a lower one, by natural magnetic potentials.

This specific permanent magnet motor application overcomes one of the serious deficiencies in all previous permanent magnet motor designs, bar none! The usual permanent magnet motor design, such as the Johnson P.M.M. (U.S. Pat. No. 4,151,431) are very much handicapped by low speed operation, which is a natural result of opposite stator/rotor, P/M station to station rotation which cannot be improved upon.

Most free-energy researchers who venture into this permanent magnet motor R & D area fail to fully appreciate this negative point about these permanent magnet motors and are usually very disappointed at the poor operating results.

Although the magnetic reaction or force differential of the Kure-Tekko unit is exceedingly small, the net effect over the full operating arc of approximately 290 degrees is quite significant, and this full arcuate motion translates directly into high speed, as a desirable feature in this compound or hybrid E/M/-P/M unit.



The Japanese Kure Tekko permanent magnet motor is based on utilizing a uniform spiral magnetic stator which forces a magnetic wheel or rotor to revolve from a high repulsion potential to a lower magnetic repulsion potential, as indicated in the photos below.

From a minimum entrance (starting) gap of about 1/4", the rotor magnets seek to revolve the rotor from the high repulsion zone to a far lower repulsion zone at the 1-1/4" exit gap, as indicated in the photos.

The original Kure Tekko unit called for an electromagnet at the top of the unit to force the (single) rotor magnet into the small air gap, but there are operational problems involved in this method. The iron core of the electromagnet is attracted to the rotor magnet, so that the electromagnet must produce a higher-than-normal repulsion force to overcome this magnet-to-iron attraction.

In this present design, an attraction spinner, at the top of the unit revolves independently of the main rotor to attract each of the rotor magnets and drives them into small air gap to start each rotational cycle.

The attraction magnetic spinner is revolved by a small 12 volt D.C. motor, which is powered by a 12 volt NiCad battery pack, and revolves at its own natural speed rate, as indicated in the photos below.

The Kure Tekko design presents an attractive configuration which offers several possibilities for operational improvements, including multi-function and over-unity output performance.

To the best of our knowledge, this present magnetic motor prototype is the first operational Kure Tekko type unit, outside of Japan.

E-Z Easy Rotor Loading Arrangement with (Hinged Trunnion-Half)

Although this prototype unit does operate continuously at about 60 rpm for the main rotor, it cannot be considered as a totally successful application of the K-T magnetic stator spiral, since the major portion of the rotor's torque is provided by the top attraction spinner which "pulls" the rotor magnets successively into the small air gap to start each of the rotor's rotational cycles.

While not being a fully successful application of the original Kure Tekko magnetic motor concept, the smooth and continuous rotation of the rotor does indicate that such an arrangement can be considerably improved, especially when the present ceramic, Ba-Fe permanent magnets are replaced with NIB (neodymium-iron-boron) permanent magnets.

Another design feature in this present prototype is the successively increasing spacing (gap) between each of the permanent magnets in the K-T spiral which reduces the natural coercivity factor between each of the adjacent magnets. This uniformly increasing space between each of the K-T spiral magnets also contributes to the magnet repulsion differential which the rotor magnets are exposed to.

The original concept behind the Kure Tekko magnetic motor, sometimes referred to as the "Magnetic Wankel" is well founded since it was based on attempting to improve the drive motor to make electric cars successful rather than to wait for improvements in electric batteries. Improvements in electric batteries have become somewhat like the weather, battery engineers talk a lot about it, but nothing ever changes, probably due to the negative economics of such improvements.

In the original Kure Tekko magnetic motor design, a single rotor samarium-cobalt magnet was utilized which was a basic design deficiency. There is no valid reason why multiple, and an equal number of rotor magnets, cannot be employed to provide rotational balance plus improved output torque for this type of unit, as in this present design prototype.

Although at a first review, the use of a free-running attraction spinner may not appear to be efficient, it should be pointed out that this minimizes friction to two rotational points alone, with no interconnecting belt or gear drives between the two rotating components. Attempts have been made to use magnetic ram and crank drives to force the rotor magnets into the small air gap, without any success, so have been abandoned. These mechanical drives entailed some friction which handicapped this method.

b) Bill Muller PRAN Technologies, Penticton, Canada

Bill Muller and his group have evolved a unique and very promising PM/EM unit. The design is based on using an even number of rotor segments and uneven number of iron stator segments, unlike conventional generators which have matched, even sets of segments.

The even number of rotor segments are permanent magnets, while the fixed, uneven number of iron stator segments provide an overlapping unbalanced alternate attraction and repulsion between the opposite interacting segments. Since the electrical coils are directly associated with each iron stator segments, this portion of the design is conventional, but the timed capacitive discharge into the coils makes this design arrangment unconventional. The capacitive discharge principle has been proven by Ed Gray, with his EvGray unit, as described in Group 8.

In addition to the natural advantage of utilizing the odd-even numbers of interacting rotor-stator segments, this design avoids the disadvantages of conventional generators by the elimination of back-EMF, ie: Lenz's Law, with the capacitive-discharge input into the multiple stator coils.

There are some key design points which must be strictly followed in order for these types of units to work properly:-

a)The permanent magnets used must be of the SAMCO-(samarium/cobalt or NIB magnets.

b)The iron segment - (rotor component) must be of equal width to the width of the P/M's used (stator component).

c)The spacing between the stator/field permanent magnets must not exceed 1.2 times the permanent magnet's width, at the rotating line.

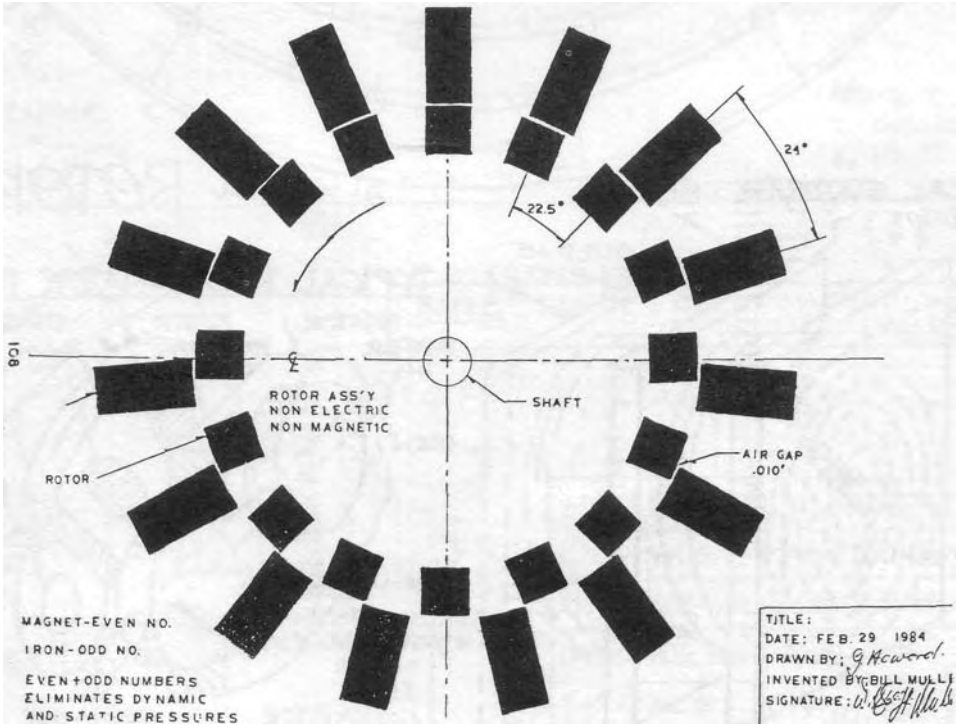
d)The air gap between the rotor iron segments and the stationary field P/M's must be quite close at .010 and no greater than .020 in order to maximize the magnetic instability between the stator/rotor components.

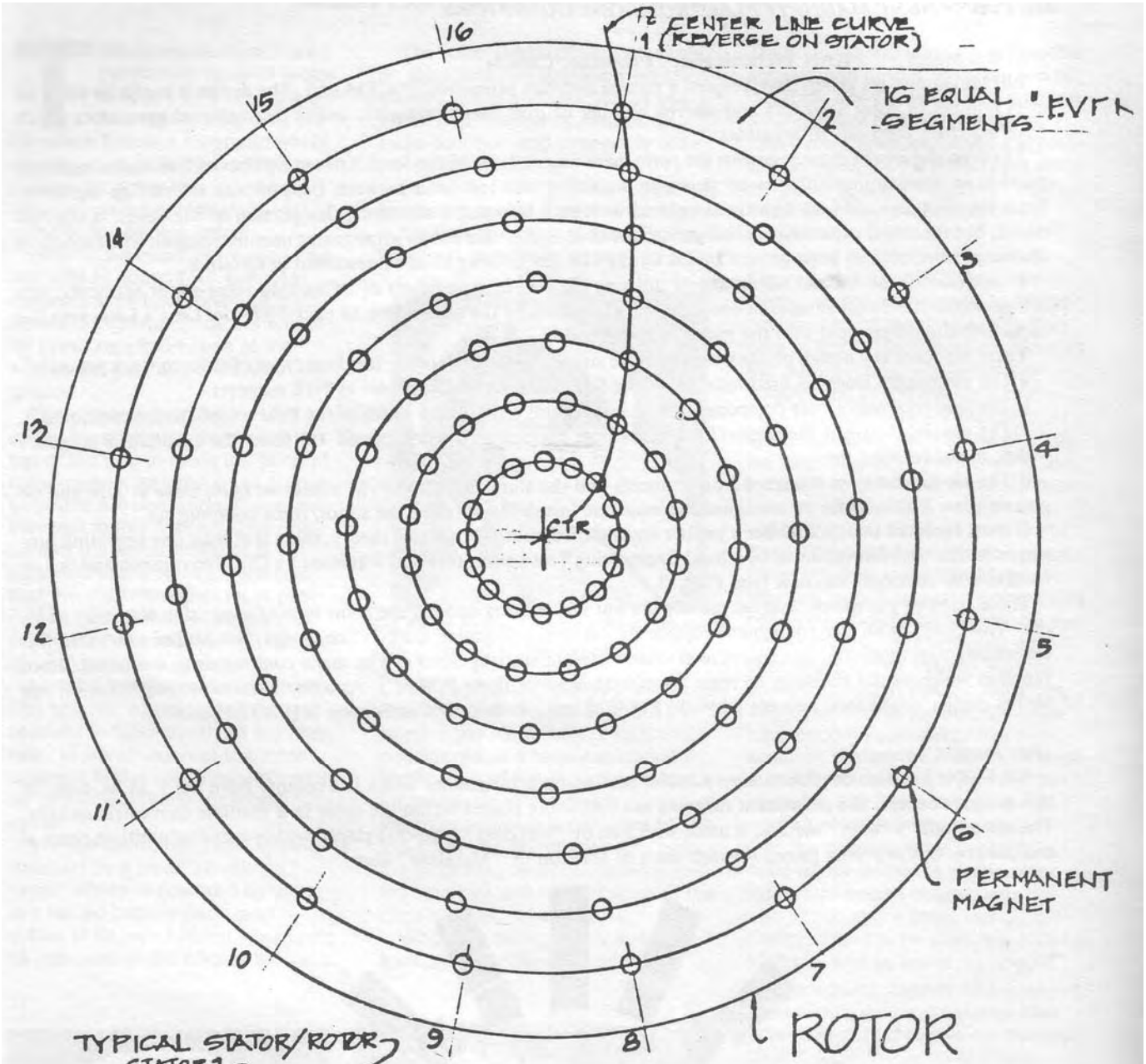
It must be noted that Bill Muller's unique and practical motor is not just theory, there is at least one operating prototype which has been validated by a local Engineering Test Laboratory and witnessed by Drs. Petermannn and Schaffranke, who endorsed this new type P.M.M.

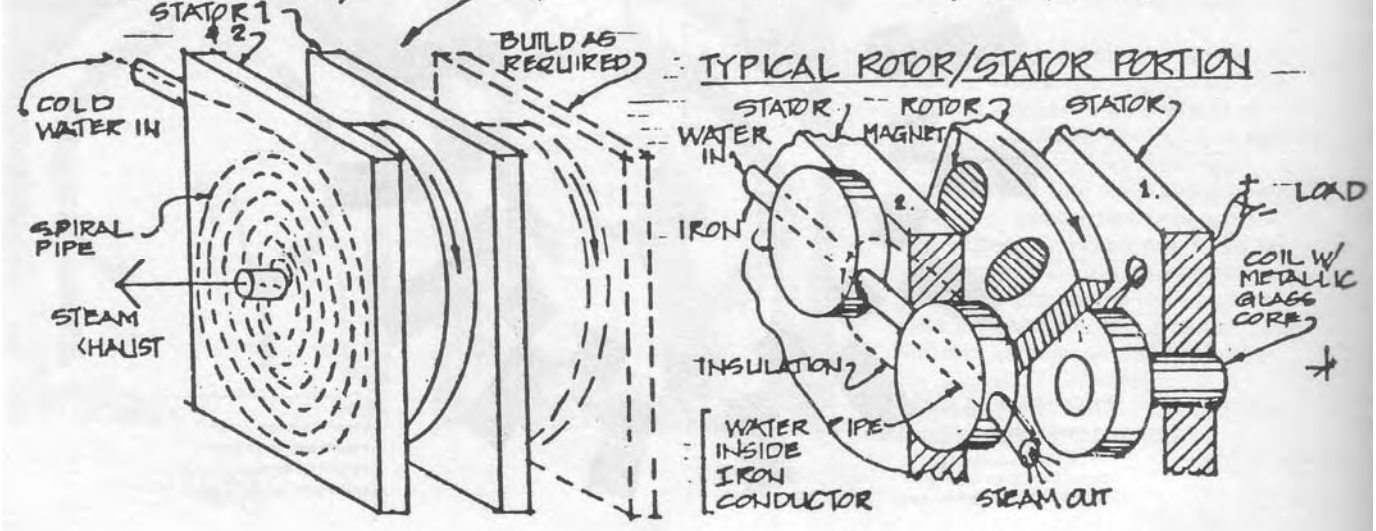
These types of permanent magnet motors are not self-starting and require some type of capacitive-discharge of input - (Ev-Gray) or an electromagnetic repulse similar to the Japanese Kure-Tekko design. Bill Muller states that this electromagnetic repulsing, or capacitive-discharge type of starting input can be made continuous as a running/timed function which would probably increase the effectiveness of these P.M.M's. As a continuous/running function this Muller design would then become a hybrid PM/EM unit, as described in Section 10(PM/EM motor).

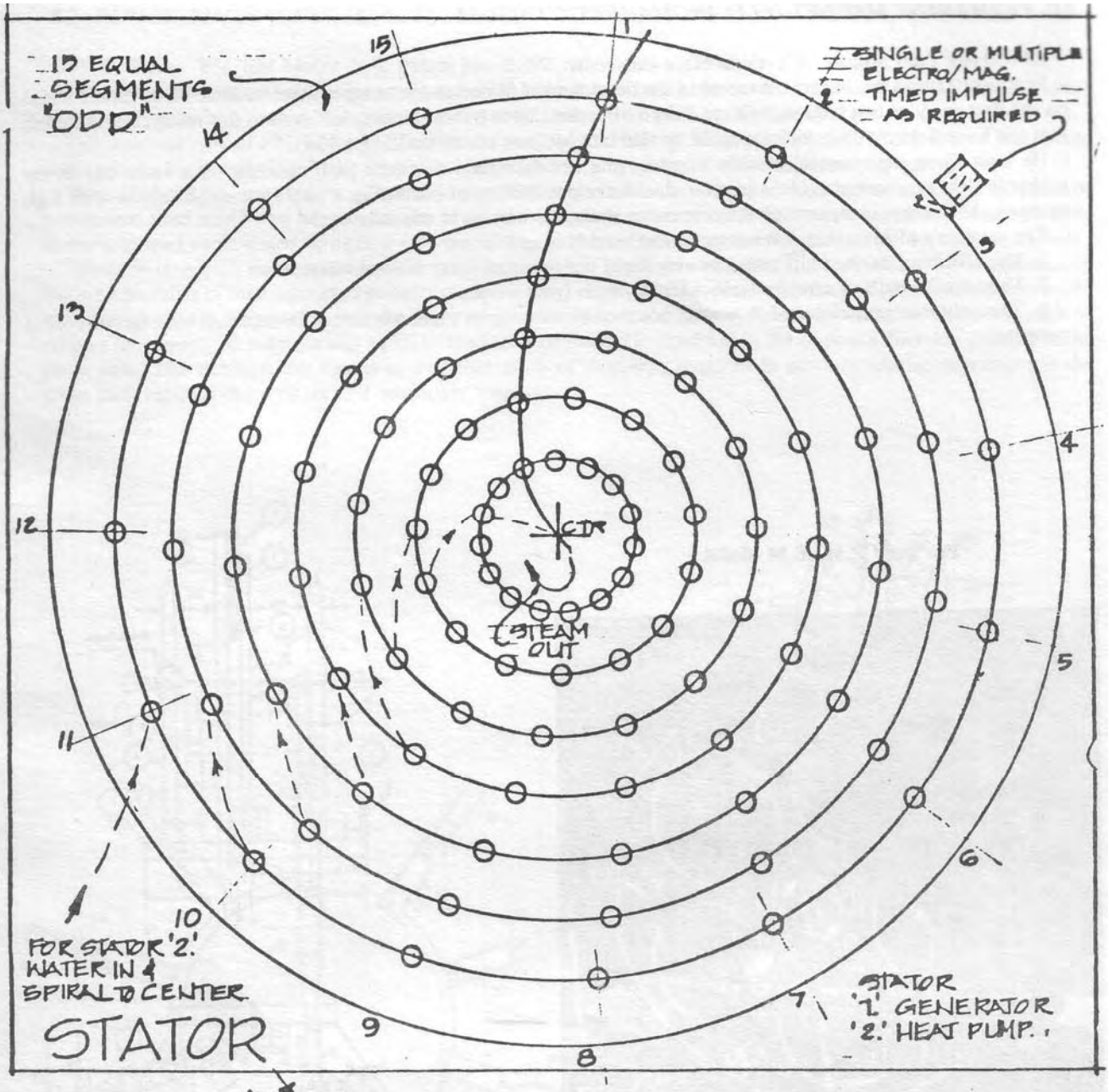
Heat Pump Concept:-

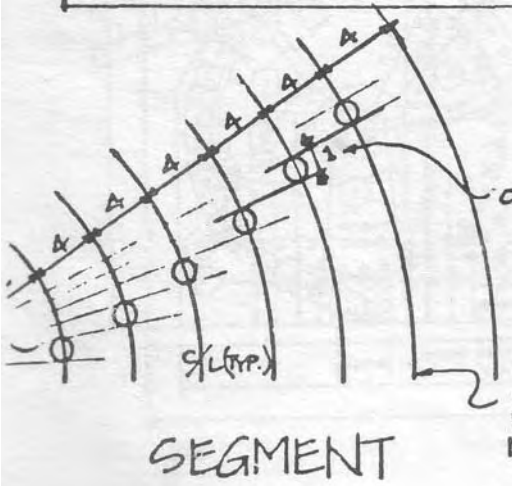
Bill Muller has also developed a very useful heat pump arrangement which is a spinoff from the P.M.M. unit. In this unique concept, the permanent magnets are uniformly placed within the rotor in a multiple concentric pattern. The same "odd'V'even" method is used, with iron or "Metglass" segments placed within a similar multiple concentric pattern. Spiral piping passes through each of the iron or "Metglass" discs.




CENTER LINE CURVE
(REVERSE ON STATOR)
16 EQUAL SEGMENTS EVER
CTR
PERMANENT MAGNET
ROTOR


TYPICAL STATOR/ROTOR
STATOR
COLD WATER IN
SPIRAL PIPE
STEAM EXHAUST
BUILD AS REQUIRED
TYPICAL ROTOR/STATOR PORTION
STATOR
ROTOR
MAGNET
STATOR
WATER IN
IRON
LOAD
COIL W/ METALLIC GLASS CORE
INSULATION
WATER PIPE
WATER INSIDE IRON CONDUCTOR
STEAM OUT





NOTE: 1 UNIT = DIA. OF MAGNET OR WIDTH OF MAGNET.

MULLER HEAT PUMP/GENERATOR		
©COPYRIGHT-PRAN TECHNOLOGIES		
INVENTOR-WILHELM J.F. MULLER		
DATE: AUG. '85.	DWN: GRA	
NO SCALE	CHK:	

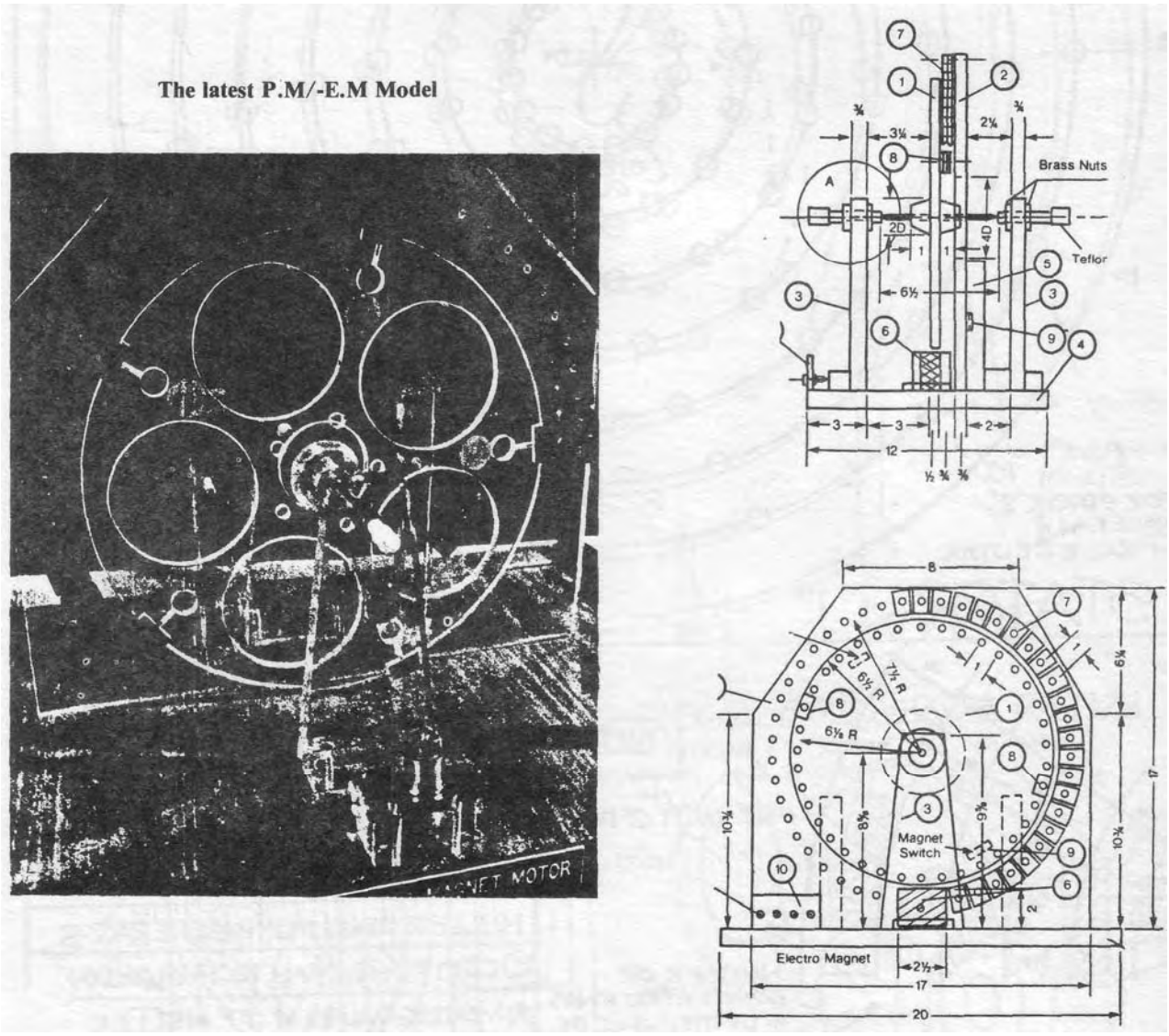
c)Professor Paul Monus Cleveland State University

Professor Monus has become involved in the development of permanent magnet motors, some of which are based on the first entry of this section, 1) Kure Tekko of Japan. Since he was already involved in this research area he felt that the Kure Tekko unit principles could be tied into his own model building efforts.

He built three experimental models based on the circular/spiral magnetic path concept, with variations in the magnetic field arrangement. He is impressed with the possibilities of producing a very light weight motor with high operating efficiency, compared to the conventional electric motors in use today.

The summary of his research results on these models is as follows:-

1. The efficiency of the units could be very high, approaching unity in some cases.
2. They can be built of any available material, even from wood.
3. The only iron material used is a small piece of electromagnet core, which can be replaced by a ferrite core if necessary.



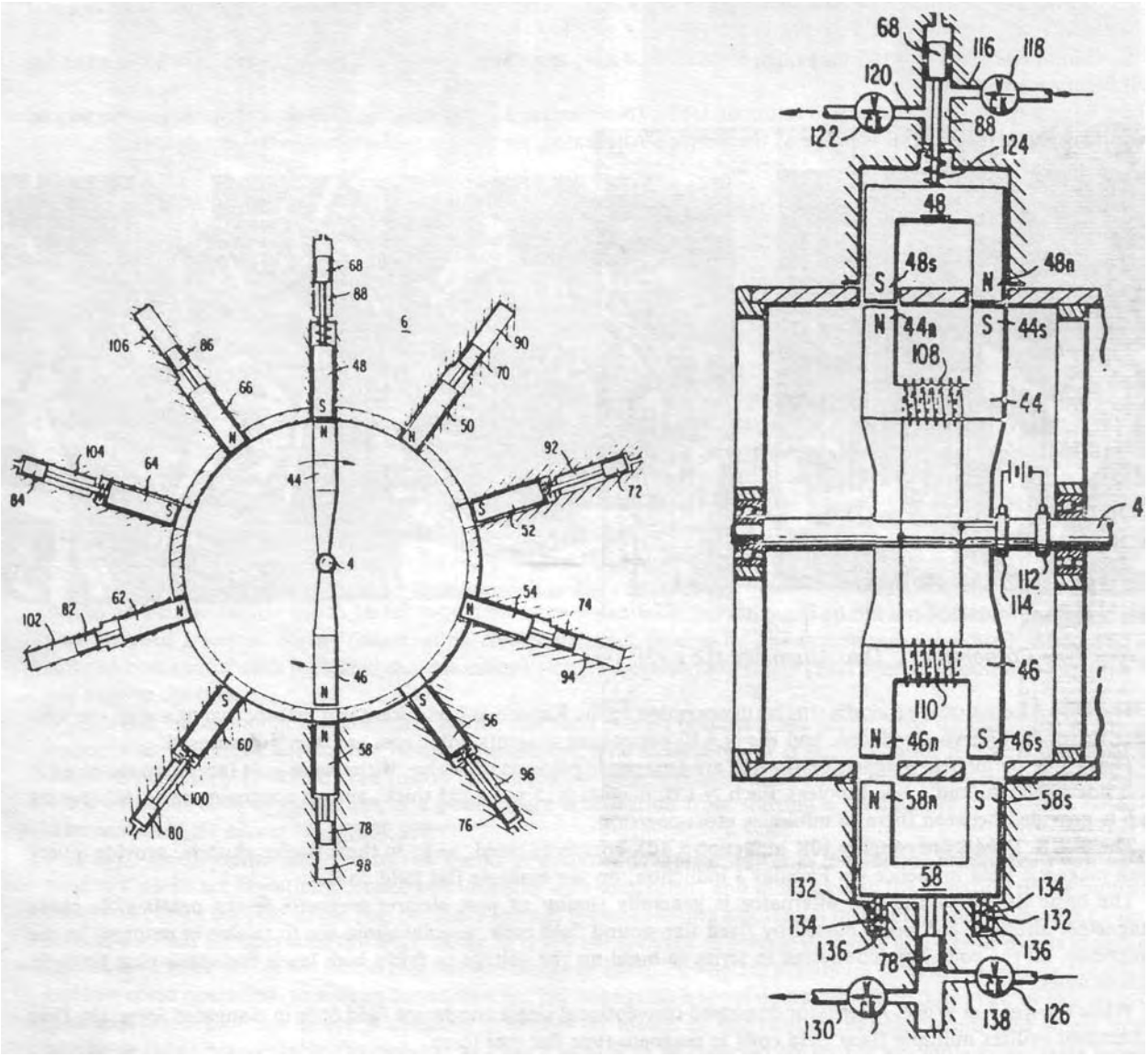
d)J.W. Putt PM/EM Motor-U.S. Patent No. 3,992,132 (Nov. 1976)

The permanent magnet/-electromagnetic motor of J. W. Putt is based on converting primary motion in a given path to produce secondary motion in a transverse direction to the given path, as illustrated.

This ununual type of PM/EM energy conversion unit which utilizes radial displacement of permanent magnets to drive pistons for a pumping device should be considered as a hybrid type of arrangement, as noted.

The radial pistons are used as a hydraulic pumping means and are connected together to provide an output of pressurized fluid which may be stored under pressure for convenient usage. The fluid may be used to drive a hydraulic motor and then recirculated through a reservoir to the individual pump means for each of the secondary magnets.

The basic invention involves the balancing of the magnetic forces of attraction and repulsion. This is achieved by having a plurality of interconnected primary magnets with polarities which coact with the polarities of the transversely movable secondary magnets so that the force of magnetic attraction in one direction parallel to the given path of relative movement are substantially equal to the forces of magnetic repulsion in the opposite direction parallel to the given path. This arrangement results in a minimization of th energy required to produce relative movement in the given path between the primary and secondary magnets.



e) Dr. Keith Kenyon - "Kenyon Alternator, " in Wheel Form (1972) Glendale, California

The Kenyon alternator resembles a bicycle wheel with multiple permanent magnets secured to the rim of the wheel. This wheel alternator is revolved by a five horsepower electric motor and the electrical output produced was used to illuminate a panel of 100 watt lighbulbs. (144)

As an electrical alternator the multiple permanent magnets must be arranged with alternating North and South poles exposed, so that a full sine wave scope pattern is produced, to power the load at an appropriate frequency/rotor speed. The frequency of the electrical output is determined by the wheel rpm and the number of magnets on the wheel, ie: 16 magnets on Kenyon's wheel revolving at 225 rpm will produce the normal 60 Hertz output/U.S. Since the lightbulbs used were 100 watts @60Hz., this is the speed (225 rpm + /-10), at which Kenyon's wheel must resolve.

The multiple field coils produce a continuous 60HZ, EMF, through conventional Faraday's induction, with no iron laminations present, which would cause magnetic drag, and is generally similar to past electrical magneto design practice. In addition to the use of conventional ceramic permanent magnets and copper wire/insulated coils, aluminum is said to play an active, key role in the alternator operation. A 3/4" thick aluminum band rums around the alternator wheel rim, as stated in the press release.

Some researchers believe that the aluminum band may have served in a capacitance function, but this point is uncertain due to polarity switching, via AC induction.

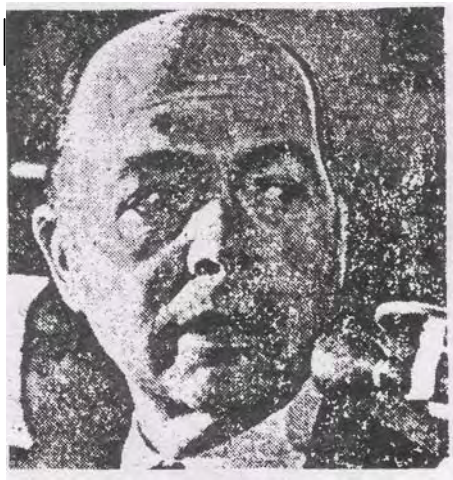
Dr. Kenyon submitted his test data to the federal government, ugh!! agencies, various ugh!! universities, and ugh!! General Motors, and their response was the usual: "Don't call us, we'll call you!" A Kenyon quotations, "They say that my instruments are wrong, but they can't tell me why??"

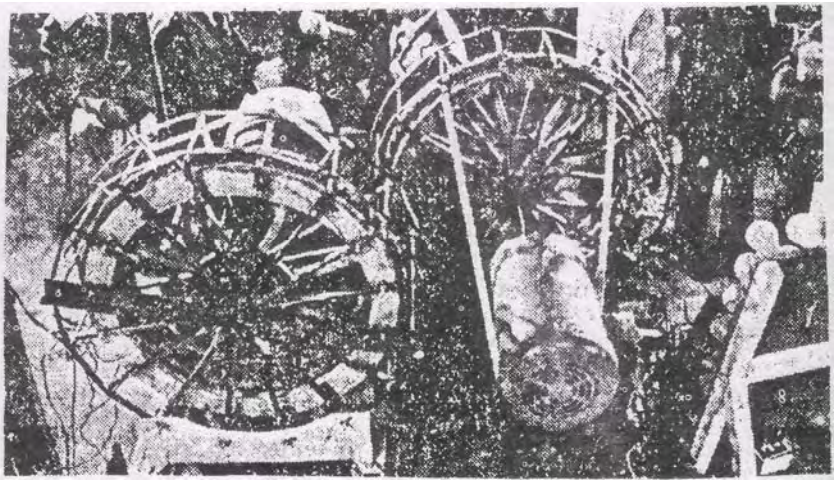
Even a cursory review of the basic numbers of the Kenyon Alternator should have caused eyebrows to be raised!!

I. Input EMF,— Five (5) H.P. x 746 watts/HP, = 3.73 KW.

II. Output EMF, — 144@ 100 watt Lightbulbs = 14.4 KW, assuming each lightbulb was absorbing full 100 watts for full illuminating intensity.

These basic numbers show an o/u/o rating of 386%, (Nominal) at full illuminating intensity. Since there is no way of determing the actual output wattage of the Kenyon Alternator, no quality evaluation can be adjudged!





f) Electrodyne Corporation Disc Alternator (12 x 12) 1986

The Disc Alternator is generally similar in operation to the Kenyon Wheel Alternator, except that as a disc, the windage factor is somewhat reduced, and the N.I.B. permanent magents pole faces are laterally exposed.

The N.I.B. permanent magnets on the disc are grouped in patterns of twelve, with twelve pole faces exposed on each disc side (6 North, and 6 South poles). Each N.I.B. magnet is .5 x .5 x .15 thick, and an approximate 5/16" spacing gap is provided between them to minimize cross-coersion.

The N.I.B. P/M's are roughly 10K induction x 10K coercivity rated, and - in these twelve clusters, provide a very high magnetic field influence via Faraday's induction, on the multiple flat field coils.

The basic design of the disc alternator is generally similar to past electric magneto design practice. In these magnetos, alternate N-S poles passed by fixed flat-wound field coils, usually about ten to twelve in number. In the magnetos, all the coils were connected in series to build up the voltage to fairly high levels for spark plug firing in automobiles.

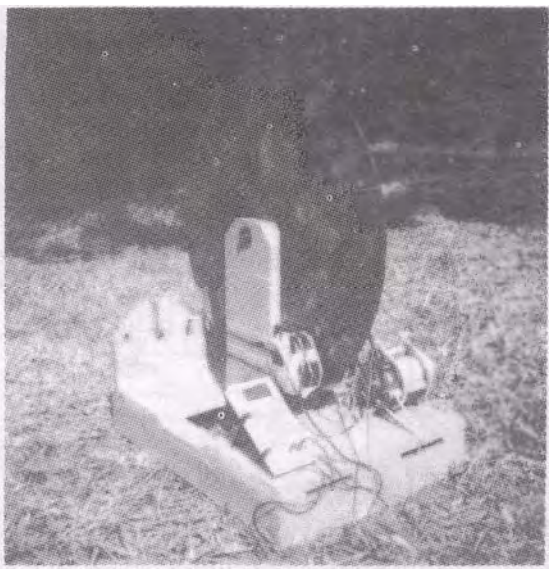
While the Kenyon Wheel Alternator employed conventional single conductor field coils in elongated form, the Disc Alternator utilizes multiple fixed field coils in magneto-type flat coil form.

Because the exposed pole faces of the twelve cluster N.I.B. magnets are relatively large for this disc, -3-1/2" x 2-1/4", it is possible to match these large areas with multiple flat field coils (up to four), so that flexibility in series/parallel circuit connections can be obtained. Unlike the older magnetos where only a voltage buildup could be possible (or amperage, if this were required) the Disc Alternator can provide both an amperage and voltage buildup, as required.

In the normal field coil connection mode, the four coils per cluster exposure, would be connected in series for a voltage buildup, while each of the (12) coils, minimum, would be connected in parallel to provide a useful amperage output level.

Tests are now being started to obtain the best coil configurations and to determine the optimum width of the field coils since the area has now been fixed (3-1/2" x 3-1/4 "), as determined by the area of the N.I. B. magnet clusters.

Tests are also being done with conductors other than copper wire to determine if superior characteristics can be obtained in this direction.



a) Joseph R. Zubris (1969) Dorchester, Mass. U.S. pat. No. 3,809,978

The Zubris electric automotive power system represents a basic improvement in the electric vehicle field, by providing electric battery conservation, unlike conventional auto-battery arrangements.

The battery/electric motor circuitry and design consists essentially of splitting the motor stator windings into two groups, with the use of multiple diodes to separate electric flow within the motor windings. His U.S. patent No. 3,809,978 provides the full details on his unique circuitry and method of operation.

Mr. Zubris became fed up with his troubled conventional gasoline powered vehicle in 1969, and decided to convert it into an electric vehicle which he felt would be more dependable. He salvaged an old ten horsepower electric motor and designed a special energy conservation electrical circuit around it. The system was fabricated, wired and continuous operational tests indicated that his unique electrical-converted vehicle (1961 Mercury) cost him less than '100 per year to operate.

Although his economical automotive system has been proven practical, Mr. Zubris was disappointed at the poor response to his unique automotive power arrangement. The electric motor is series wound, but with split field windings, as previously described. The reason for the electric battery conservation is that relays are used to cut the battery drain by about 60% of maximum, at a point where acceleration from starting is leveling off.

Abstract of U. S. patent No. 3,809,978:-

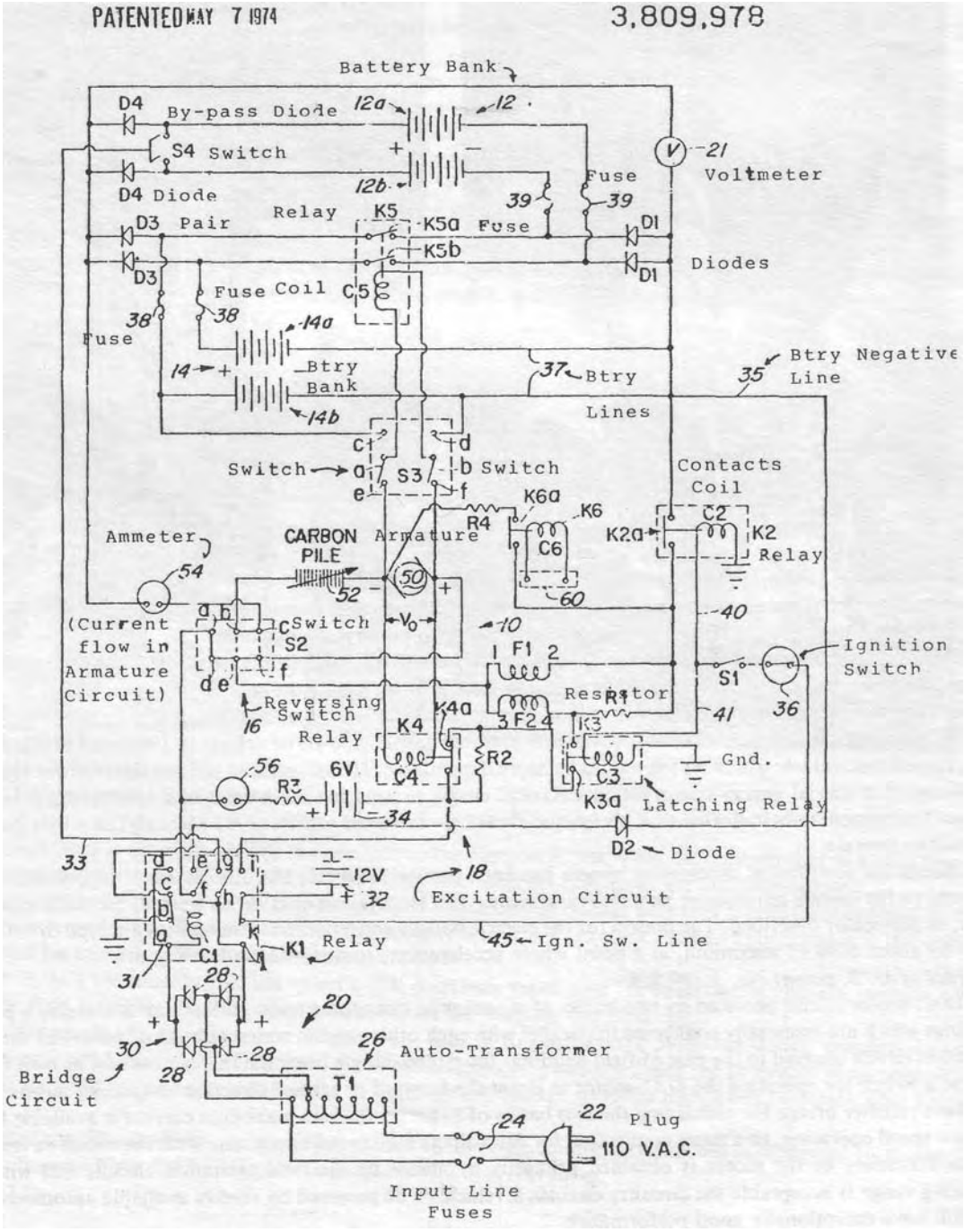
A D.C. motor circuit powered by two banks of automobile storage batteries includes an armature, a pair of field windings which are essentially connected in parallel with each other, and in series with the armature of the motor; an excitation circuit coupled to the pair of field windings for establishing a potential thereacross and its own D.C. power source, a switch for operating the D.C. motor in either the forward or reverse direction and circuit means including a full wave rectifier bridge for recharging the two banks of batteries wherein maximum current is available for starting and low speed operation, to a series connection for full voltage high speed operation. With the circuit of this invention greater efficiency of the motor is obtained primarily by means of the field excitation circuit, and where limited operating range is acceptable the circuitry enables a vehicle to be powered by readily available automotive batteries and still have exceptionally good performance.

Present Electrical Vehicle Status:

Power circuits in present electric vehicles generally require a relatively large electric motor for powering the vehicle, and this motor in turn requires an excessive number of storage batteries for properly powering the vehicle, over a resonable period of operation. These known circuits generally do not provide for efficiently operating the motor with the least amount of drainage from the storage batteries. In particular, known circuits require excess surge currents during starting and low speed operations.

In addition, these electric vehicles have either been overly complex and too costly to be manufactured for general public usage, or alternatively, are too small and limited in the period of use obtained between charging.

In this present electric/automotive system the use of field excitation is of particular importance, as the use of this circuit primarily enables one to operate lower surge currents. In one embodiment the starting and acceleration power drain were reduced by approximately 50%. The normal running power drain is also reduced by the use of the excitation circuit. However, it is noted that even if the excitation circuit should malfunction.-vehicle operation will continue, at a reduced efficiency.



XIV. SOLID STATE - AMPLIFYING TRANSFORMERS

a) HANS COLER - CURRENT FLOW DEVICE & MAGNET CURRENT FLOW APPARATUS

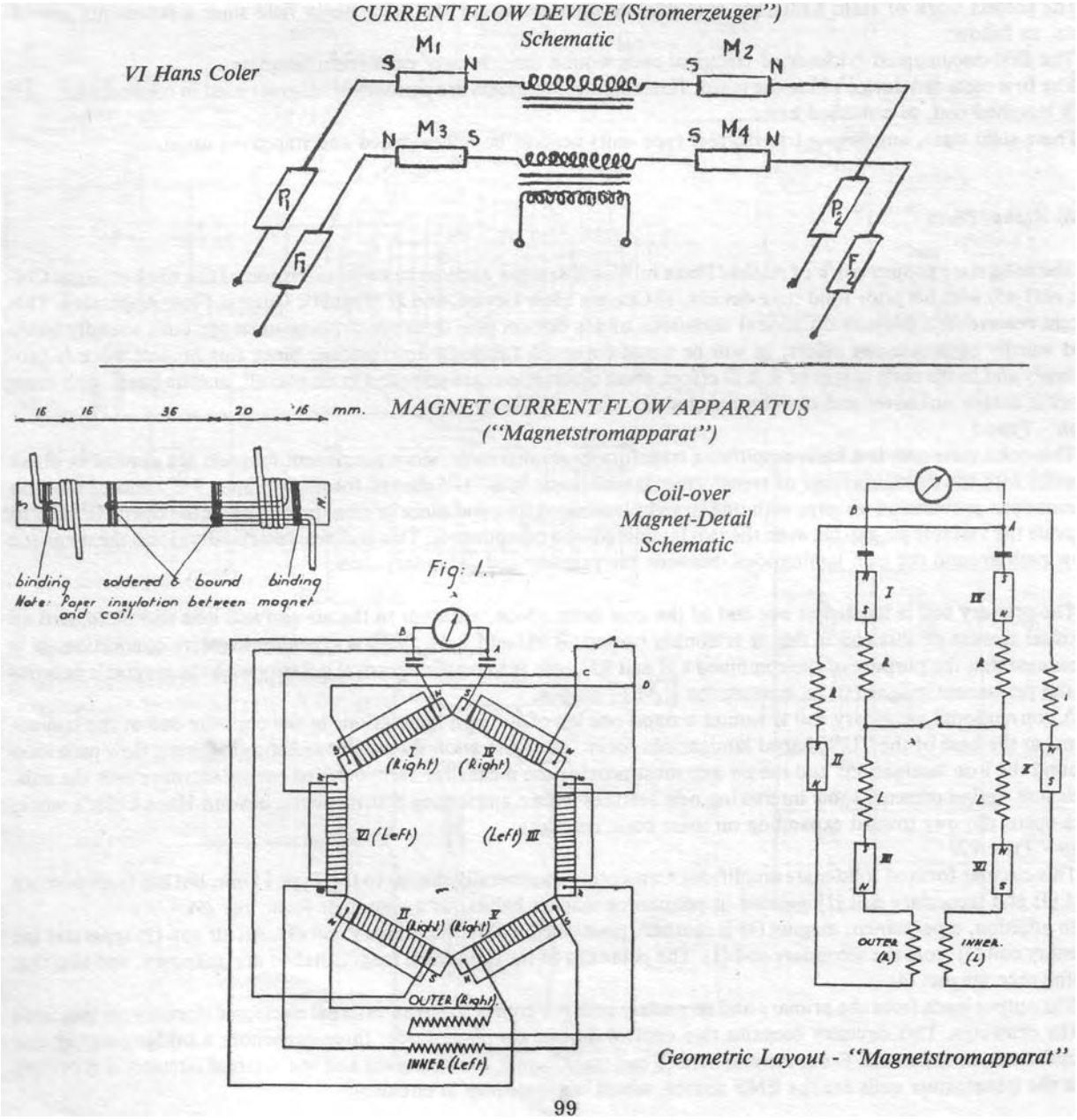
Hans Coler, a German energy researcher from the period from 1936 to 1945 evolved several promising solid state electrical energy sources using permanent magnets, various shaped coils, copper plates and condensers (capacitors).

Two significant devices were produced from this war-time research, the first being the " Stromerzeuer, " or Current Flow Device, which consisted of a central transformer comprised of two flat coils, with the ends of the secondary flat coil connected in series with the South poles of two permanent magnets. The North poles of the two permanent magnets are linearly connected to two flat copper plates.

The output leads were connected to the ends of the copper plates, all in accordance with the accompanying diagram.

The input to the primary flat coil was at the wattage level provided by a standard dry cell battery, presumed to be the 1 1/2 volt size. It was claimed that when the battery energized the primary circuit, a separation of charge takes place, influenced by the two magnet polarities, within the linear circuitry. When the battery source was switched off, a reversing current is supposed to flow, in the secondary circuit, but the magnets are not supposed to influence a polarization effect on this reversing.

Several size versions of the "Stromerzeuger" were built, one small ten watt unit, a larger seventy (70) watt unit and finally a large unit built in 1937 reportedly produced 6 KW output.



XIV. SOLID STATE - AMPLIFYING TRANSFORMERS

Although this device has been fully documented, the specifications appear to be sketchy, with some key size and winding information missing. Such a device, as illustrated, seems to have little likelihood of producing a useful level of output, but does serve to stimulate thinking along these lines of solid state devices.

"Magnetstomapparat" or Magnet Current Flow Apparatus

The second energy device built by Coler is the Magnet Current Flow Apparatus, which was comprised of a geometric/hexagonal pattern of six permanent magnets, each in corner-contact with adjacent P/M units.

Identical conductive coils were wound over each permanent magnet, but insulated from them. The magnet/coil combinations were connected in series with matched polarity, North to North pole, South to South pole connections, with two small condensers, a switch and a pair of sliding solenoid/rheostat coils required to tune the circuit.

With the switch in the open position, the magnet coils are uniformly separated while the sliding coil is set in various positions, with a pause between adjustments. The magnet-coils are separated further and the sliding coil moved again. The procedure is repeated until an optimum separation of the magnet-coils is shown on the voltmeter. The switch is then closed, and the procedure repeated more slowly. The voltage increases further to a maximum, and is supposed to remain at this maximum of about twelve (12) volts.

The project work of Hans Coler has considerable significance for the Free energy field since it represents several firsts, as follow:

1) The first documented evidence of electrical coils wound directly over permanent magnets.
2) The first recorded device where the major functional components are permanent magnets used in conjunction with matched coil, as a unified item.

These solid state, amplifying transformer type units need to be reintroduced and improved upon.

b) Alpha/Theta

The solid state project work of Alpha/Theta in West Germany appears to be an extension of the work of Hans Coler (1937-45) with his prior solid state devices, 1) Current Flow Device, and 2) Magnetic Current Flow Apparatus. This recent researcher's projects on several variations of s/s devices plus dynamic-rotating units are both soundly based and worthy of continuing effort, as will be noted form the folowing descriptions. Since this project work is proprietary and in the early stages of R & D effort, these descriptions are provided in an overall, outline basis, with some specific details unknown and therefore excluded.

Unit - Type I

This solid state unit is a basic amplifying transformer arrangement, since permanent magnets are applied in direct contact with the inside surfaces of transformer laminations, in a "U" shaped form. One open "U" end of the iron laminations provides an air gap, with one straight laminated iron end piece in close proximity of the open"U" end to provide the variable air gap between the two laminated iron components. This end peice essentially closes the magnetic flow path around the iron laminations, between the primary and secondary coils.

The primary coil is located at one end of the iron laminations, adjacent to the air gap and iton end piece, and an unusual feature of this coil is that it is double wound, R.H. and L.H., with a common negative connection. It is presumed that the purpose of the combined LH and RH coils is to match electrical polarity with the magnetic polarity of the permanent magnet(s), to increase the E.M.F. output.

A conventional secondary coil is wound around one leg of the iorn laminations at the opposite end of the laminations, at the base of the "U" shaped laminations form. The illustration shows a continuous magnetic flow path loop around the iron laminations and the air gap must provide the means for tachyon filed energy entrance into the unit. This unit design presents some interesting new features within amplifying transformers, beyond Hans Coler's work, and opens the way toward expanding on these basic concepts.

Unit - Type VII

This circular form of solid-state amplifying transformer is generally similar to the Type I Unit, but has both primary coil (3) and secondary coil (1) encased in permanent magnet halves, as a container form, per (5).

In addition, a permanent magnet (4) is centrally positioned within the primary coil (3). An air gap (2) separates the primary coil (3) from the secondary coil (1). The polarities of the cylindrical magnet halves are unknown, and also that of the core magnet (4).

The output leads from the primary and secondary coils are connected to an external electronic circuitry, as indicated in the drawings. This circuitry contains two control diodes, on plain diode, three capacitors a bridge rectifier and transformer, as indicated. From the magnetized coil transformer configuration and the external circuitry it is evident that the transformer coils are the EMF source, which is stepped-up in circuitry.

UNIT TYPE I

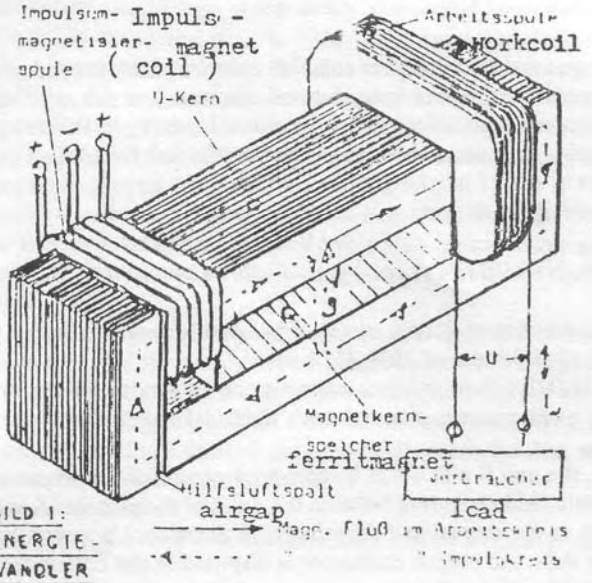
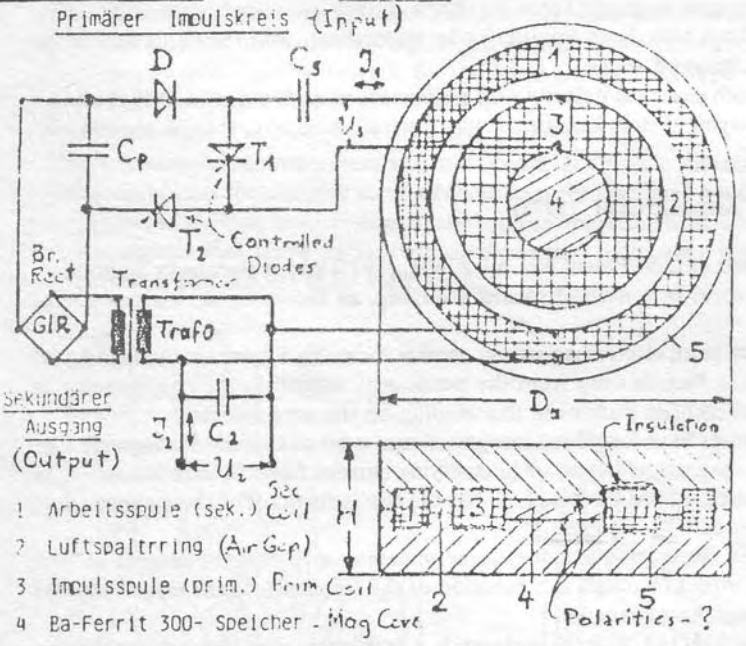


BILD 1: ENERGIE-WANDLER

UNIT TYPE VII

Primärer Impulskreis (Input)



1 Arbeitsspule (sek.)
2 Luftspaltring (Air Gap)
3 Impulsspule (prim.)
4 Ba-Ferrit 300- Speicher
5 Weichmagnetischer Rückschluß aus Mn-Zn- Ferrit (Container Ring-Magnets N-S pole)

TYPE VII

Kenndaten für 1 kVA-Konverter

D_a = 50 mm ; H = 20 mm

primär: Primary

w_1 = 1 ; R_1 = 40 µΩ ; C_s = 20 nF

U_s = 660 V ; I_{1max} = (400 A) → (Tachyon) ? = (264 KW)

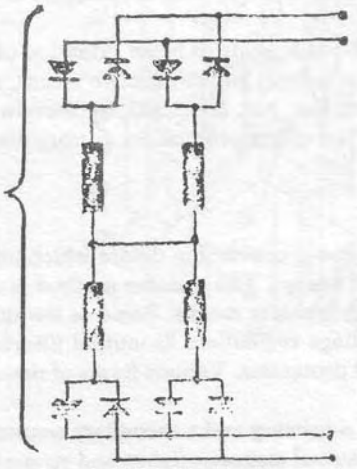
sekundär: Secondary

w_2 = 10 ; R_2 = 5 mΩ

U_{2N} = 220 V ; I_{2N} = 5 A (1,1 KW)

Richtwerte für Typenreihe mit f_1 = 5 MHz, f_2 = 0,5 MHz Ba-300- Ferritkern		
P_N kVA	D_a cm	H cm
1	5	2
10	9	3.5
50	13.5	5.5
100	16.5	6.5
1000	30	12

UNIT TYPE III



Unit - Type III

The transistorized coil (ignition) unit, is another solid state device which is generally similar to Hans Coler's "Current Flow Device" or "Stromerzeuer" since it consists of connecting a group of electronic components in a symmetrical, dual series circuit pattern, as indicated. In the case of this Type III Unit, the components are four transistorized coils, two per identical circuits, (which apparently substitute fro Coler's central flat coils). The outer portions of the circuit contain twin sets of blocking diodes, which must serve to enhance electrical polarity magnitudes, and therefore the E.M.F. yield from the unit.

c) Frank Richardson Las Vagas, NV (1978)

The Richardson magnetic converter suggests a means of increasing electrical output yields in a generally similar way as Hans Coler's earlier solid state devices of 1936-45.

In his U.S. Patent No. 4,077,001, titled; "Electromagnetic converter with stationary variable reluctance members", he embodies a unique array of permanent magnets with electrical connection stages, which are influenced by the various magnetic field stages.

As described in the patent, the unit is a D.C/-D.C. converter comprising a permanent magnet having spaced apart poles and a permanent magnetic field extending between the poles of the magnet. A variable reluctance core is disposed in the field in fixed relation to the magnet and the reluctance of the core is varied to cause the pattern of the lines of force of the magnetic field to shift. An output conductor is disposed in the field in fixed relation to the magnet and is positioned to be cut by the shifting lines of permanent magnetic force, so that a voltage is induced in the conductor.

Several experimental tests along these genarl lines have been carried out by researchers, with the reults limited to small output power levels not exceeding several hundred watts.

In one experiment an attempt was made to match electrical polarity with permanent magnet polarity, with the hope of boosting the output, as shown in the accompanying sketch, but the test was generally negative, with no appreciable output level attained.

d)E. V. deRivas - Electromagnetic Generator Los Angeles, Calif. (1977)

This electromagnetic generator is fully described in U.S. Patent No. 4,006,401, (1977) and is essentially an array of electromagnets with associated iron laminated cores in a multi-disposed grouping, as shown in the various patent figures.

According to the patent abstract, it is described as an electromagnetic generator including a permanent magnet and a core member wherein the direction of magnetic flux flowing from the permanent magnet in the core member is rapidly alternated by switching to generate an alternating current in the winding on the core member.

As stated in the patent text, "Permanent magnets have long been recognized and used as sources of magnetic flux both separately and in combination with electromagnets as means of intensifying current flow. In such instances, as the frequency of the control signal to the electromagnet has increased, so has the coil inductance of the magnetic flux path to limit the magnitude of the generated current."

It is an object of this invention to provide an electromagnetic generator including a permanent magnet as flux source wherein the magnitude of the generated current increases as a function of the frequency of the signals applied to control the direction of flux flow from the permanent magnet.

This patent is in Art Class - 323/92; 307/104; 336/110, and the assignee is a family member, Rene Villasenor de Rivas.

The solid state electromagnetic art of de Rivas appears to be an extension of Han Coler's basic art, except for the addition of convention electromagnetic to permanent and conductive means, as taught by Coler.

One reference patent is cited in this patent: Pat. No. 2,725,520, by Woodworth, 11/1955, Art Class 323/92x.

This solid state electromagnetic generator art offers promise for further development and improvements.

e) Parametric Transformers

The parametric transformer is a passive power conversion device which utilizes a novel parametric oscillator to achieve the parametric transfer of electrical energy. The transfer method is quite different than the usual mutual inductance or flux coupling electrical energy transfer means. Some of the unusual characteristics involved in the parametric transformer include: 1) line voltage regulation, 2) mutual filtering, 3) unilateral operation, 4) phase-locked output voltage; and 5) basic overload protection. Various forms of these parametric transformers are finding wide use in industry.

A basic transformer consists of two coils, a primary and a secondary wound on a single laminated iron core. The core provides a low reluctance path for the mutual magnetic fields, and strong flux coupling takes place between the

two coils with a resulting high efficiency transfer of E.M.F.

The newer parametric transformers utilize two component not found in ordinary transformers which are: a shunted magnetic core and, b) a resonant output circuit. This newer type transformer provides a useful operating feature which is voltage regulation under varying input voltages. The major advantage in this feature is the transfer of minimum distortion output voltages. Since there is no mutual induction between the two windings of the parametric transformers the output voltage does not reproduce any of the input voltage irregularities.

The Wanlass U.S. patent No. 3,403,323 describes such parametric transformers in more detail, as noted.

3b. Parametric Motors

The parametric motor is described in the U.S. Patent of W.Z. Fam, U.S. Patent No. 3,716,734, (1973), as a single phase alternating current motor that operates as a balanced two-phase motor with a single-phase supply input. The patent abstract describes the parametric motor as an alternating current electric motor having a rotor, a first magnetic structure defining a first magnetic circuit.

A second magnetic structure defining a second magnetic circuit, said first and second magnetic circuits including the said rotor in their magnetic paths, said first and second magnetic structures each having portions generally at right angles to each other, a first winding on said first structure and connected for energization from an alternating current single phase supply, a second winding on the said second structure connected to a capacitor to form a closed electrical circuit, said first and second windings excited parametrically from the first winding producing a flux in the second structure ninety degrees out of phase with the first.

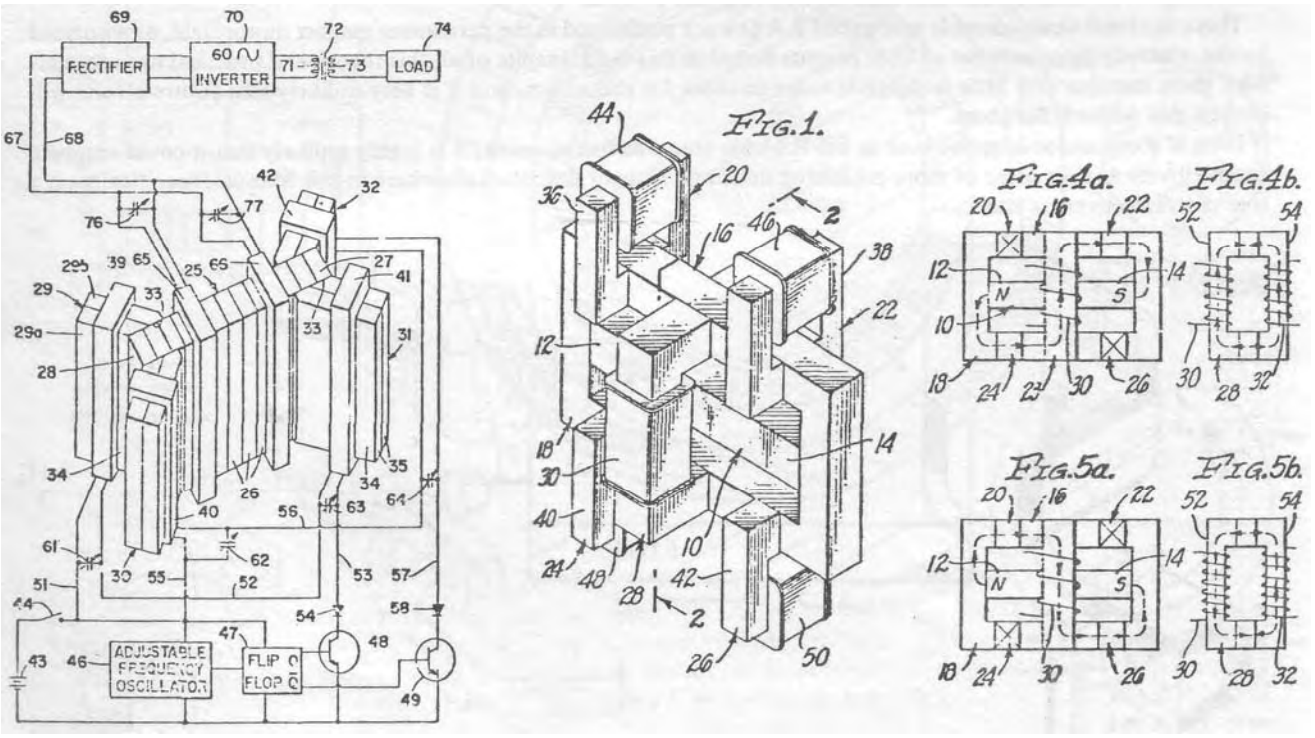
3 c. Core Construction for Parametric Devices

U.S. Patent No. 3,648,205, describes the core construction for variable inductors and parametric devices, issued to C.L. Wanlass (Mar. 1972).

The patent-abstract is as follows: Various core constructions are disclosed for use with variable inductors and parametric devices, the cores having supplemental core pieces acting in some cases as magnetic shunts, — and in other cases as return paths, or both, for the input and/or output portions of the magnetic core such as that disclosed in U.S. Pat. No. 3,403,323, as noted above.

Applications to "free energy" devices and systems:

These parametric transformers and motors are included in this solid state, R & D Section to possibly spur interest in the possibilities for utilizing some of their features into such f/e devices or systems. As noted, parametric motors offer improved starting torques due to multi-phase operation from a single phase supply input. The stabilized resonant output suggests that these parametric methods may have some useful transfer to Tesla/Hubbard type amplifying transformers, and similar solid state units.



XV. PERMANENT MAGNET MOTORS

a) Howard Johnson — U.S. Patent No. 4,151,431

The Johnson permanent magnet motor as described in U.S. Patent No. 4,151,431 stirred considerable interest in the prospects for the direct application of permanent magnets as a no-power input energy source, which is a most desirable feature for any prospective free-energy source.

The Johnson art was divided into two types of distinct units, one linear and one rotary, with the most interest directed toward the rotary version due to the possibility of it leading to a no-power-input electrical generator. The linear version was demonstrated before the PAtent Office and was the basis for the issuance of the Johnson patent, since it proved to be practical in the demonstration given. No rotary unit was demonstrated before the patent examiners.

Considerable development effort has been expended over the years on the rotary version, but no tangible evidence has been reported, and spcifically on a cost/effective version of this rotary unit. The early reports of high output yields and practical operation are believed to be public relations hype, and exaggerations of basic performance data.

It has now been well established that none of thes permanent magnet motors has been able to effectively overcome the serrious deficiency of natural low-speed operation, which naturally lowers the horsepower output equation, for a given torque level.

The Johnson rotary P.M.M. consists of multiple, equally spaced rectangular permanent magnets secured to a rotor component, with mutiple arcuate, or banana-shaped (special) permanent magnets evenly spaced as the stator P/M's causes a positive preponderence of magnetic force vectors to advantageously act on the rotor P/M's, thus causing rotation in one direction. The main problem with these special types of P/M's is that it is impossible to get a major preponderence of magnetic force vectors to act the rotor magnets, so that a severe operational tradeoff must be made in order to achieve some degree of positive rotation.

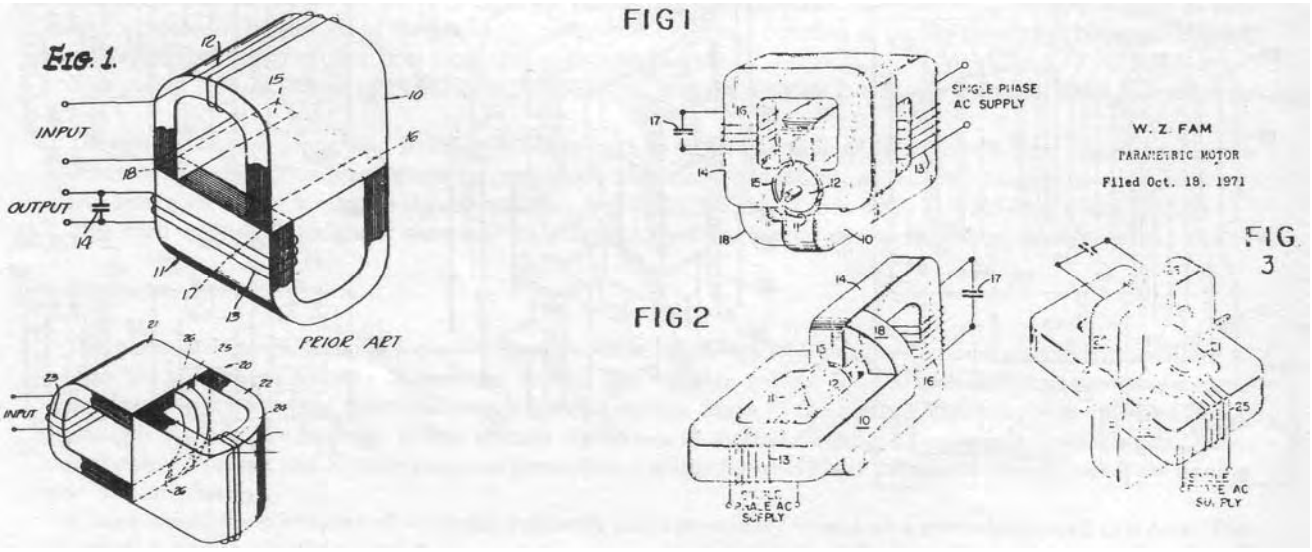
A magnetic force preponderance of around 25% is about all that can be expected as an optimum value for this type of design, and there is very little that can be done to improve on this basic geometric configuration. Some performance improvement and slight cost-reduction can be expected by switching from the high cost samarium-cobalt P/M's to the latest NIB's (neodynium-iron-boron) P/M's but this factor will not overcome the basic deficiencies of this P.M.M. concept.

As was previously stated, the natural low operating speed of these P.M.M.'s due to slow station-to-station reaction speed is a severe negative factor for these units, and when this is coupled to the low magnetic force preponderence andhigh magnet cost, it is sufficient to make these P.M.M. projects highly questionable, at best.

Without an appreciable operating speed available, the H.P. output must be borne by the magnetic reactive torque hich has proven to be on the lean side for the Johnson P.M.M.

There has been a considerable amount of R & D work performed in the permanent magnet motor field, as witnessed by the relatively large number of U.S. patents issued in this field. Inspite of all this theory and practical hardware effort, there remains very little in tangivle value to show for this effort, and it is very unlikely that future efforts will change this outlook for them.

Even if some major improvement in the P.M.M. area was forthcoming, it is highly unlikely that it could compete competitively against some of more promising units and systems described elsewhere in this Manual, specifically on a true cost/effectiveness basis.



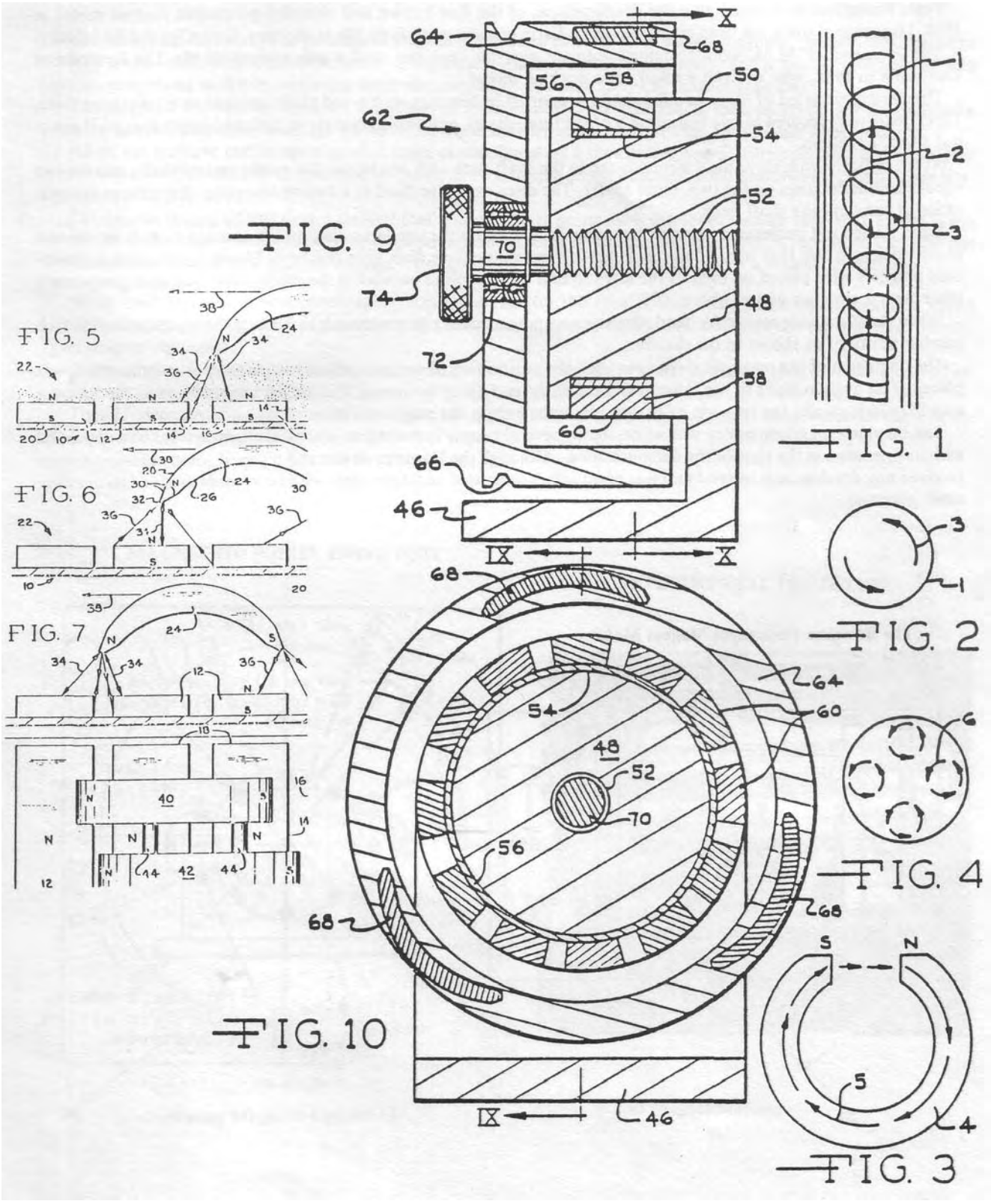


FIG. 9
FIG. 5
FIG. 6
FIG. 7
FIG. 1
FIG. 2
FIG. 4
FIG. 10
FIG. 3

b)Peregrinus (1269 A.D.) to Lee Bowman in 1954.

Peter Peregrinus is credited with the developement of the first known and recorded permanent magnet motor in 1269. His original work has been translated from Latin and the work is on file at the New York City Public Library.

The Peregrinus P.M.M. work remained dormant over the centuries until it was revived by Mr. Lee Bowman of California in 1954, who evolved a small scale working model.

The device consisted of three parallel shafts supported in bearings within end plates secured to a solid base plate. Three gears were secured at one end of each of the three shafts, at a two-to-one ratio, with one larger gear on the central shaft, as shown.

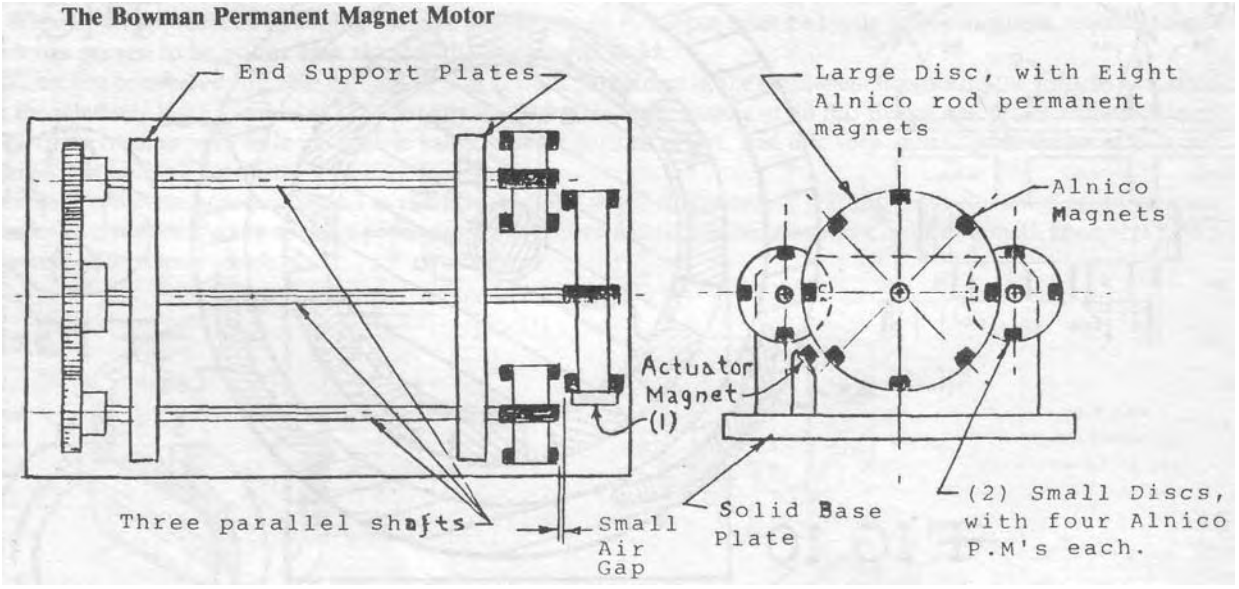
At the opposite end, three discs were secured to the shaft ends with one larger disc on the central shaft, and the two equal size smaller discs on the two, outer shafts. The discs were also fixed at a two-to-one ratio, the same as the gear ratios at the opposite shaft ends.

Eight Alnico rod permanent magnets were equally spaced on the one large disc, and four magnets each on the two smaller discs, so that they would coincide in position when the three discs were revolved. The elongated Alnico permanent magnets were placed on each of the discs so that they revolved parallel to the shafts, and their ends passed each other with a close air gap of about .005".

When the discs were moved by hand, the magnets passing each other were so phased as to be synchronized at each passing position, as shown in the sketches.

The operation of the magnetic device required the positioning of a single cylindrical permanent magnet which was placed at an angle relative to the lower quadrant of the end discs, as shown. This single magnet acted as the actuator magnet which caused the rotation of the disc by unbalancing the magnetic forces of the three magnetic discs.

The Bowman magnetic motor was witnessed by several people including an electrical engineer who was impressed with its operation at the time of the demonstration. Although the Bowman device ahd received some exposure it never received any development interest and was eventually dismantled and destroyed, with no records made of its development potential.



c)D.A. Kelly Magnetic Wheel Drive, U.S. Pat. No. 4,179,633 (Dec. 1979)

From the Patent Abstract: The permanent magnet wheel drive consists of two basic magnetic components, one large driven wheel containing a uniform series of identical permanent magnet segments, and a second magnetic driving means comprising multiple oscillating magnetic couples of opposite identical magnet segments.

The magnetic mechanism simulates the action of a mechanical clock escapement mechanism in that the oscillating magnet couples uniformly oscillage between the wheel magnet segments to induce continuous wheel rotation.

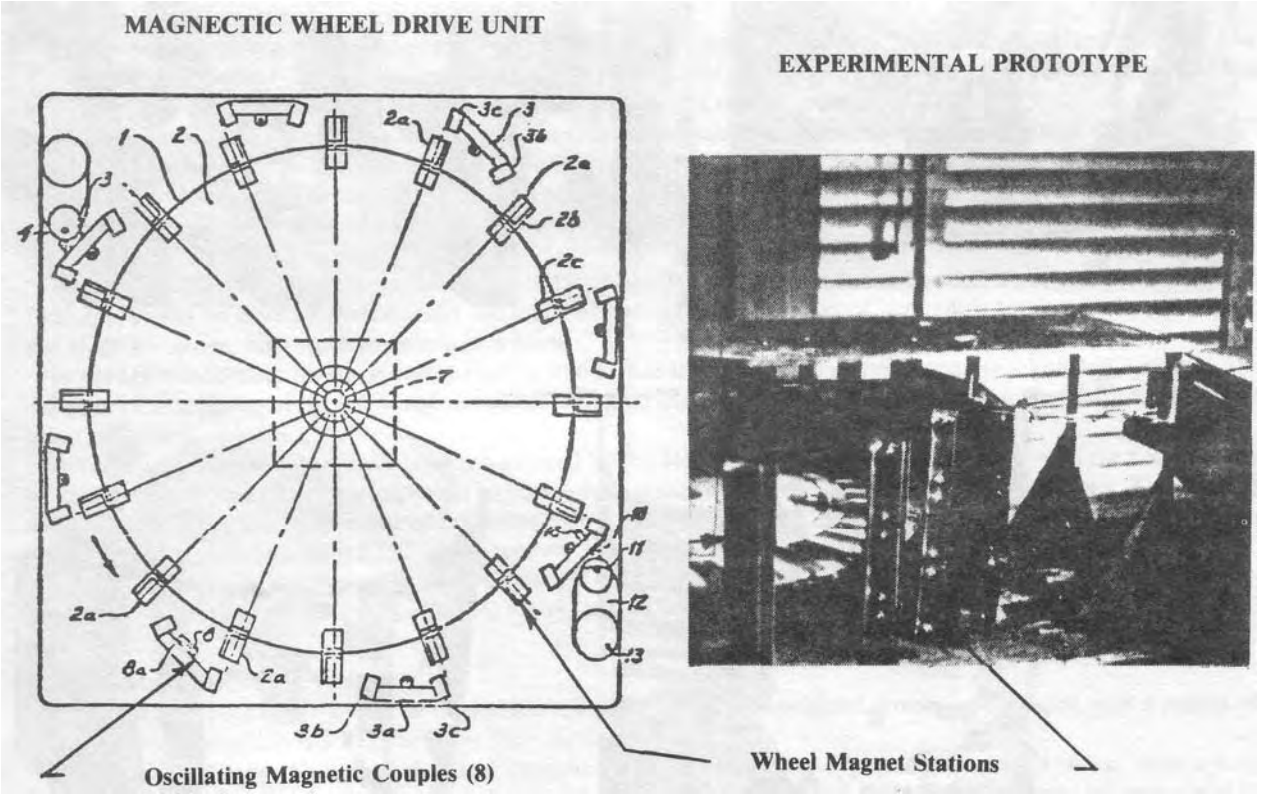
All of the multiple oscillating magnet couples are oscillated by a motor(s) driven eccentric through a suitable gear reduction unit. The small D.C. motor(s) are powered by multiple arrays of silicon solar photovotaic cells at some convenient rooftop location.

Continuous testing of this device showed that it consistantly produced a (no-load) step-up ratio of 2:1, that is the large wheel rim force was double that of the input actuating force on the oscillating couple. A repetitive, identical test procedure was used to establish an average value of input and output readings, under a no-load condition.

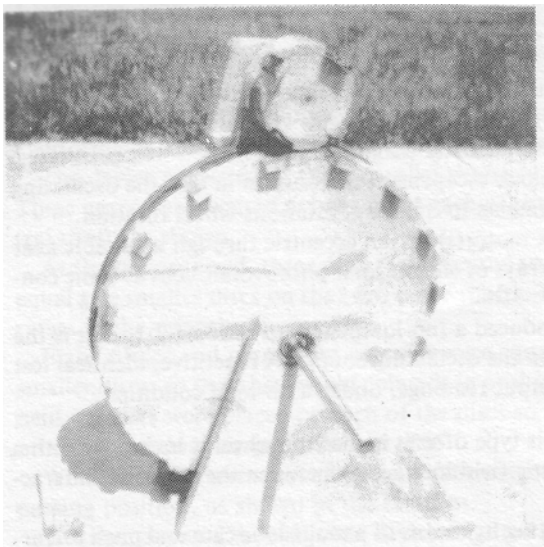
While these test results were encouraging, a disadvantage for this type of unit is that the wheel is locked-in with a low, fixed speed out-put which is dependant on the natural magnetic field interaction between the opposite, interacting magnet segments.

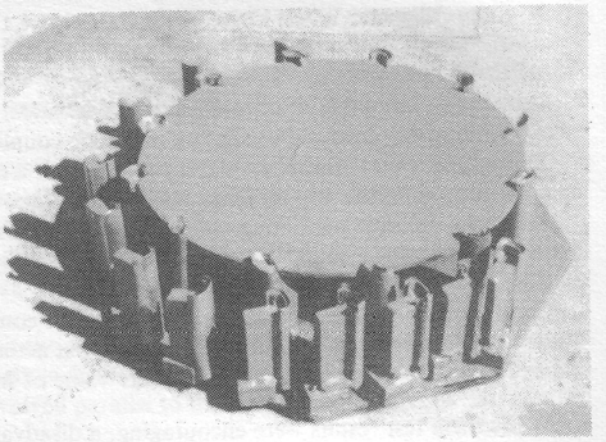
The magnetic wheel drive was originally designed to be self-actuating by means of a multi-lobe cam and push rod arrangement, but this approach has not proven to be successful to date.

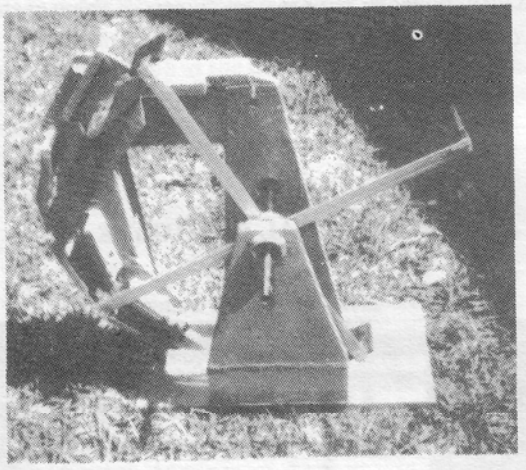
The device indicates the basic value in utilizing interacting magnet components, but has no commercial value as the full test results have shown.

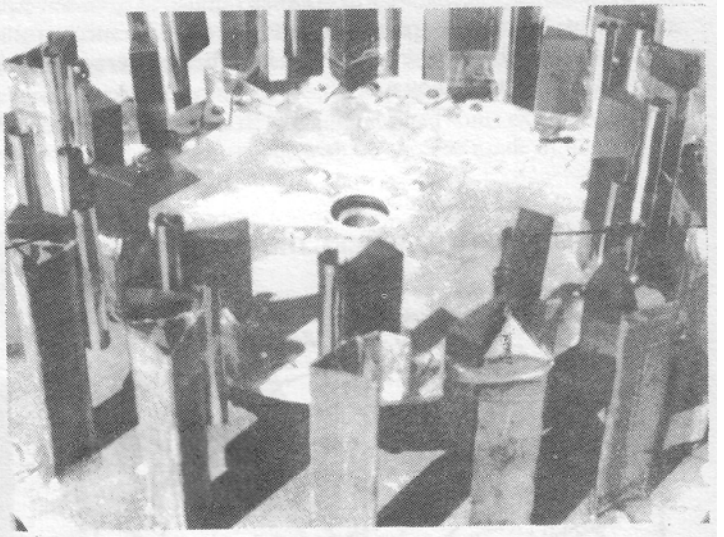


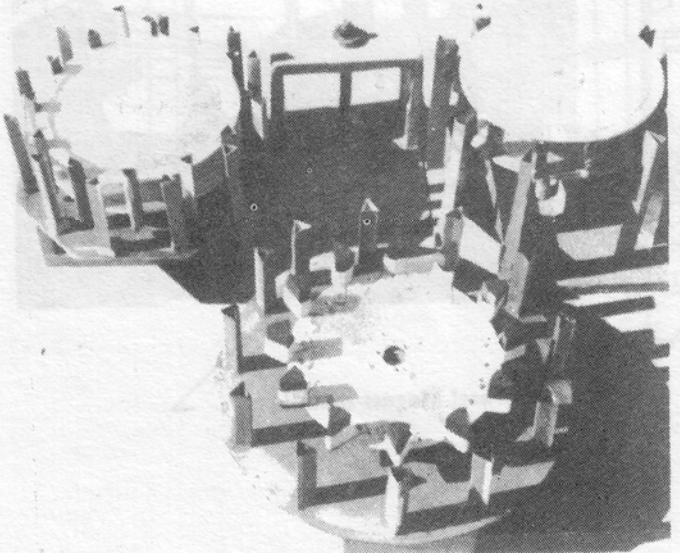
PERMANENT MAGNET MOTORS
Various Experimental Types

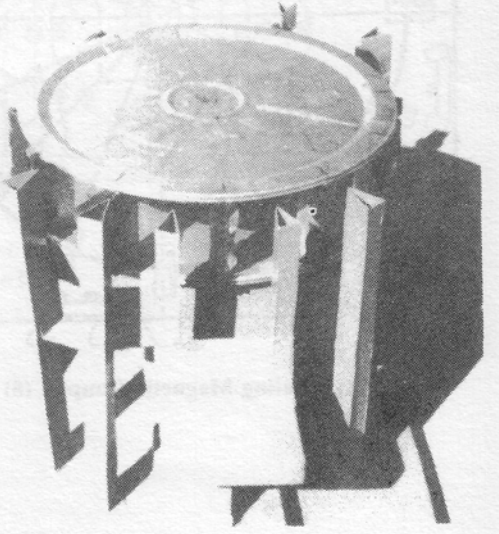












PERMANENT MAGNET MOTORS - "THE ENERGY WHEEL" Concept.

While no major advances have been made in any type of permanent magnet motor due to their low natural speed of operating, there is a useful application in the shielded magnet principle. It has been found that using shield magnets in the repulsion mode of operation can result in a useful magnetic flywheel, of "ENERGY WHEEL" unit.

As was evident in the Johnson P.M.M. design, there is no real advantage in trading off attractive and repulsive magnetic forces when the reaction speed, ie: rotor output speed is far too low. Most subsequent permanent magnet motors have suffered from this basic tradeoff problem which also limits any useful torque yeild that can be derived from these experimental units.

Various types of magnetic shielding techniques have been developed over the years, which either shield magnetic attraction or repulsion, with only a limited degree due to the inability to totally shield magnetic fields by any element, or practical and economic means.

Combination shielding using hollow Mu-metal shell filled with Bismuth granules has proven to be marginally effective (approximately 20) in providing magnetic shielding of opposite attraction magnetic forces, so that the repulsion mode can be utilized for an "Energy Wheel".

Subsequent testing has shown that multiple layers of Mu-metal strips with plastic spacers of about equal thickness to the strips is quite effective in providing adequate shielding. Mu metal strips in up to five layers on both rotor and stator magnets.

Due to this marginally effective magnetic shielding, the Energy Wheel concept can become a useful dynamic component when used in conjunction with other dynamic alternator or generator units. Such "Energy Wheels" revolved with increased rotational endurance/time and can therefore serve as an intermediate energy storage unit or dynamic flywheel between a small input drive motor and an output electrical alternator or generator, for a degree of over-unity output operation.

OBSERVATIONS ELECTROSTATIC MOTORS

O. D. Jefimenko - West Virginia University

O.D. Jefimenko and a group of graduate students at West Virginia University have become involved in the research and development of various type of electrostatic motors.

While the various types of electrostatic disc motors are not true "free-energy" machines, they are worth of consideration since they may serve as "trigger" /excitation devices for the input of electrical energy for other types of true "free-energy" units such as the Moray, Hendershot, Coler and similar types of units.

The Jefimenko electrostatic motor is based on the classic Benjamin Franklin electrostatic motor or "electric wheel" machine. The Franklin motor is similar to the old Wimhurst electrostatic generator consisting of many conductive wheel stations or segments located at the wheel's periphery. As the wheel revolves at high speed minute opposite static charges are accumulated and transferred to polarized collective chambers, at opposite sides of the wheel, at about 2000 volts and sometimes higher.

As dynamic converters, these various disc machines tap the earth's electric field and although the electric power (wattage) produced never exceeded about one hundred watts, they are of interest in possibly serving as the primary input stage for other, high wattage output machines.

In the Jefimenko electrostatic motor, a rimless wheel turns in a horizontal plane (corona-type) on ball bearings. The elongate rotor consists of two identical end plates with multiple, equally spaced flat strip electrodes secured to each of these end plates.

A variety of corona motors have been constructed by the Jefimenko group. They have discovered the performance of these machines can be greatly improved by correctly shaping the electrodes which produce the corona. The working surface of the rotor should be made of thin plastic strips, such as Plexiglas or Mylar. The inner surface of the cylinder should be lined with conductive foil to enhance the corona.

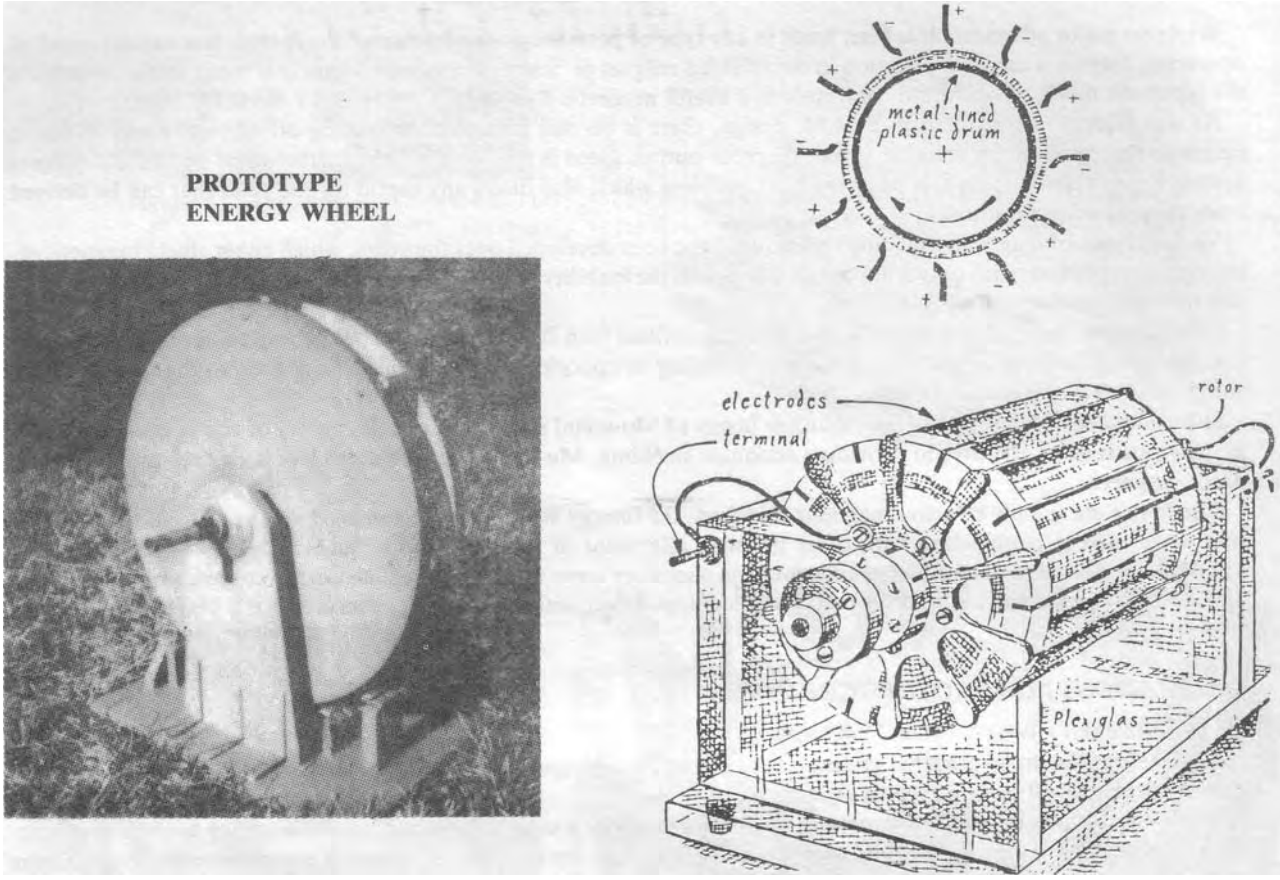
The Jefimenko group reconstructed a Poggendorff type of electrostatic generator which produced an output of approximately .1 horsepower, at about 12,000 r.p.m. and efficiency of more than 50%

CRYSTAL COMPONENTS

By definition, a crystal is a mineral crystalline solid in which the constituent atoms are arranged with a degree of geometric polarity which is a key factor to their electronic usefulness.

Certain types of crystals act as electrical capacitors and also produce a piezoelectric effect when subjected to pressure and/or heat. The quartz crystal is of particular interest since it exhibits a change in structure when exposed to elevated temperatures of high voltage currents.

The crystalline quartz component has the unique characteristic of absorbing electromagnetic waves and converting them into charge flow generally the same way as the T. T. Brown dual-plate capacitor, with its anti-gravity effect. Conversely, the crystalline quartz component has the ability to convert charge flow into electromagnetic waves (piezoelectric transducer) function.



Various experiments with quartz crystals have shown that when they are exposed to a potential source in a fixed direction they will stretch and contract, and in a rapidly changing potential, the crystal will convert electrical waves into mechanical oscillations. The piezoelectric effect, as displayed by Rochelle salt crystals in several devices such as loud speakers, or conversely in the case of microphones are a direct application of a scientific effect.

While these piezo effect oscillations are quite small they can be held at a discrete frequency and are thus ideal in maintaining a constant wavelength in radio transmitting equipment.

Testing has disclosed that by using special equipment to retain these crystals, they may be increased in size by an applied potential in different directions (axes) and will not return to their original size, when the potential source is stopped. This phenomena seems to indicate that the internal electron motion from a molecule causes an irreversible change of the entire crystal structure.

The project work of Dr. Kowsky and Frost established the anti-gravity effect of the quartz crystal, with an experimental device which they called gravity nullifier.

The experiments of Kowsky and Frost showed that when a quartz crystal was retained on a scale and a high voltage potential applied, the crystal lost a percentage of its weight. Further investigation was directed at increasing the voltage level input up to several kilovolts and for longer durations. The testing disclosed that a quartz crystal of about two inches by one inch by 3/4 inch increased about twenty times in all directions! Not only did this crystal become weightless, but it also lifted up the scale apparatus with it (approx. 55 lbs.) and all elements became free-floating in the air within the laboratory!

The testing showed that the specific gravity of the test quartz crystal was reduced to a far greater extent than the change in its volume would indicate. The test quartz crystal had assumed a negative specific gravity under the influence of the high voltage input and thus began to levitate under weight-load conditions.

The quartz crystal is a hexagonal (six-sided) crystalline solid, usually with a point at one end, with the strongest energy points at the ends. In a double ended quartz crystal, there are two pointed ends, boch having strong energy focus points.

Quartz crystals usually "grow" deep within the earth strata, since they are best formed, with the clearest structure, in the absence of water, light or air. They usually "grow" in clusters similar to plants and trees. A natural quartz crystal about three inches long and one inch in diameter may take up to fifteen years to "grow", and it has been estimated that about one-third of the earth's mineral struture is in one form of quartz, or another.

Unified Particle Theory

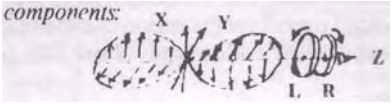
(Editor s note: Inventor Joe Newman has caused a major ruckus with his "magnetic particle "machine, and many people have read the inventor's theories as presented by Sam Taliaferro in MAGNETS (May 1986) as well as in his self-published book. Essentially, Joe Newman theorizes that magnetic particles are gyroscopic in nature. Now comes John Griggs of Prineville, Oregon with an interesting version of the Unified Particle Theory (UPT) and we are delighted to present it to you in full. Mr. Griggs first developed his theory in 1954, and has been allowing it to grow and improve over time. We share a portion of his letter to this editor as a preface to his updated, 1985 version.)

This paper was condensed nine years ago from one small, though important, aspect of the unified particle theory which I began an entanglement with (in September or October of 1954) due, first, to my doubts on the explanation offered by special relativity on the constancy of the velocity of light for all observers (regardless of states of motions, etc.); and, secondly, to my further skepticism on the gravitational explanation of general relativity, i.e., on the so-called curvature of space-time. How much better an attenuation shadow works! For thirty years I was laughed to scorn.

But now — during the last year and a half — most particle physicists are screaming that, at least, general relativity will have to be drastically revised if their new "superstring theories" are to work. Friends and acquaintances are now pointing out that 1 have had a "superstring theory" for thirty years. Even so, I have never called the UPT a "superstring theory." Nevertheless "superstringers " have copied many aspects of my theory, including non-pointlike properties of elementary particles. They now say that charge is smeared out, while with our basics this has always been a requirement. And behold! They now say that "curvature of space-time" must be drastically changed If one could only cry! And they have even copied the torus for the internal constituents of nucleii — but not of the electron, they suppose. I'll be so bold as to say it again: These internal constituents are electrons (±). It is no fault of my own that they are groping in the dark yet, for I sent extracts of the UPT to the theoretical physics departments of all major universities in the United Stales twenty-five years ago (I have some of these returned, unopened). And at many other times I gave excerpts of the UPT to renowned physicists and astronomers in academia.

Many places in the enclosed paper I use the terms "basics of space," "basic photon flux, " "magneticflux, "and "flux wind, "etc. They are all the same. On page two I call these "photons." This is also true, but a further explanation should be given: These basics are photons which have split up or which have never joined to an oppositely spinning partner.

Now that I have said this, I must say further that the electromagnetic radiation which we can sense or measure: light, whistlers, gamma radiation, etc., is made up of nutating, oppositely spinning pairs of our basics of space which sense and affect the basic flux. This spinning double basic photon gives a perfect picture of Maxwell's sine-waved orthogonal electromagnetic



The spinning photons trace out "waves." Also see FN 10. Moreover, this double spinning photon concept explains refraction, defraction (without "waves"), polarization without ad hoc assumptions (e.g., here, "spheroidal waves" — as if there could be any such thing), and all the other known properties of electromagnetic radiation fit beautifully. This is explained in the unified particle theory, from which this paper is extracted.

But it is not proper that I should bring in all the ramifications of the statements made or ideas touched upon, or this explanatory note must be much bigger than the paper. The paper is on "elementary"particles.

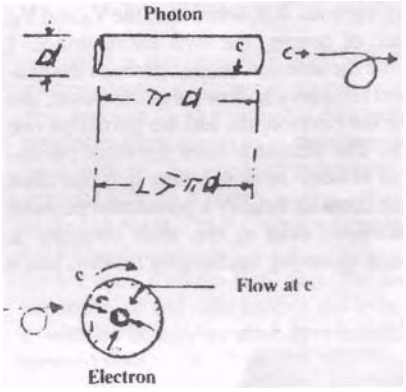
A Two Component Particle Hypothesis

(Taken from the Unified Particle Theory)

If particles are assumed to be composite structures whose components were at one time photons one can build up a two component particle hypothesis which not only fits the phenomena of charge, spin, etc., including a new conserved quantity in all particle reactions, but also he can, by assigning a mass (when bound) to each of these two components, have a pretty near fit with the masses which are known from experiment. Others are predicted. This hypothesis is much simpler than the quark ones. And its predictions are more exact.

I make these assumptions about a photon: (1) it is cylindrical and perhaps hollow (or, depending on spin diameter, disc like or annular) in shape. (2) It spins always at c while moving linearly at c, and these two movements are retained once the photon becomes part of a particle (any point on surface traces a helix of 45°, so the trace speed is 1.4142c).

To become a particle of mass this photon must curl upon itself forming a torus. There are two generic types: closed and open. The effectiveness of the former spin(the spin 1 of the photon) is now "cancelled", though the spin is retained; the tori of charged leptons are closed:



The four arrows symbolize the annulcd spin of the former photon; the single outside arrow, the new particle spin. The spin shown by the 4 arrows is critically necessary for encrgy-to-mass formation; I call this movement the "flow" of the torus. If a photon describing left hand helicity curls and forms into a particle it remains forever distinct from a torus which is formed from a photon of right hand helicity because of the two movements (one cannot be changed to the other). These are truly elementary. One is an e^-; the other an e^+. Either might now, in translatory motion, show left or right helicity (have spins parallel or antiparallel); however, one helicity would be preferred, as will be shown directly.

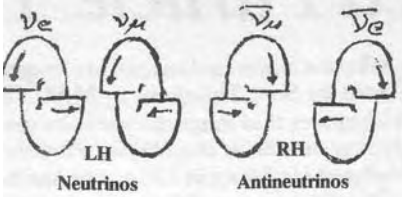
Charge is assumed — in this scheme — not to inhere, per se, in the torus, but rather to be a manifestation of the electro-magnetic radiation of space[1] (flowing through the hole of the doughnut.

I assume that space is permeated with photons of various "wavelengths". These ordinarily do not mutually interact while traversing space together any more than, say, two searchlight beams interact or, a microwave beam and photons from the sun interact. These photons collectively I call the basics of space (since they are the basic stuff from which not only matter, but charge, as well, is made).[2]

Although the photon may possibily be hollow, have a cylindrical shell structure, as a charged particle I presume that, in any case, it squeezes down to a structure filled (with the "fire fluid" of the photon).[3] Electrons should be very small (and no photon less energetic or shorter than P times its diameter can ever become an electron).

The torus contributes a mass of about 68.6 meV when bound in nucleii. When free, 0.5 MeV, the e+.

There has to be a second particle constructed from photons with no charge capabilities, or mass while free. It must come in two versions. It is, when free, the V_e and V_r; also, of course, the two antineutrinos. I make the assumption that perhaps the neutrino remains a hollow torus. However, unlike the electron, the tori are parted on one side. The neutrinos form spirals of permanent helicity. In sketch note that one must here consider helicity a permanent physical parameter even as one must consider a screw as having unchanging helicity; this is aside from the usual vector definition, of "parallel" or "antiparallel" spin.



One can have four distinct particles, two of left helicity, and two of right, fitting the requirements of V_e, V_r, V_e, V_r. This quadrality obtains because, with the permanent helicity, we have also the locked in photon spin, analagous to flow in the electron's torus. We have no V_r.

Further, since some force must hold the helices unchanging I assume this is the disturbance in the basics (an electro-magnetic 'field') caused by the two spins, and the two (hollow) faces. The V is electromagnetically neutral overall for the reason that the magnetic polarity and strength of one face (at where the tori are split) would just oppose that of the other, neutralizing the V as a whole.

This uncharged, apparently massless (when free) lepton contributes a mass of 18.53 MeV when bound inside the composite particle.

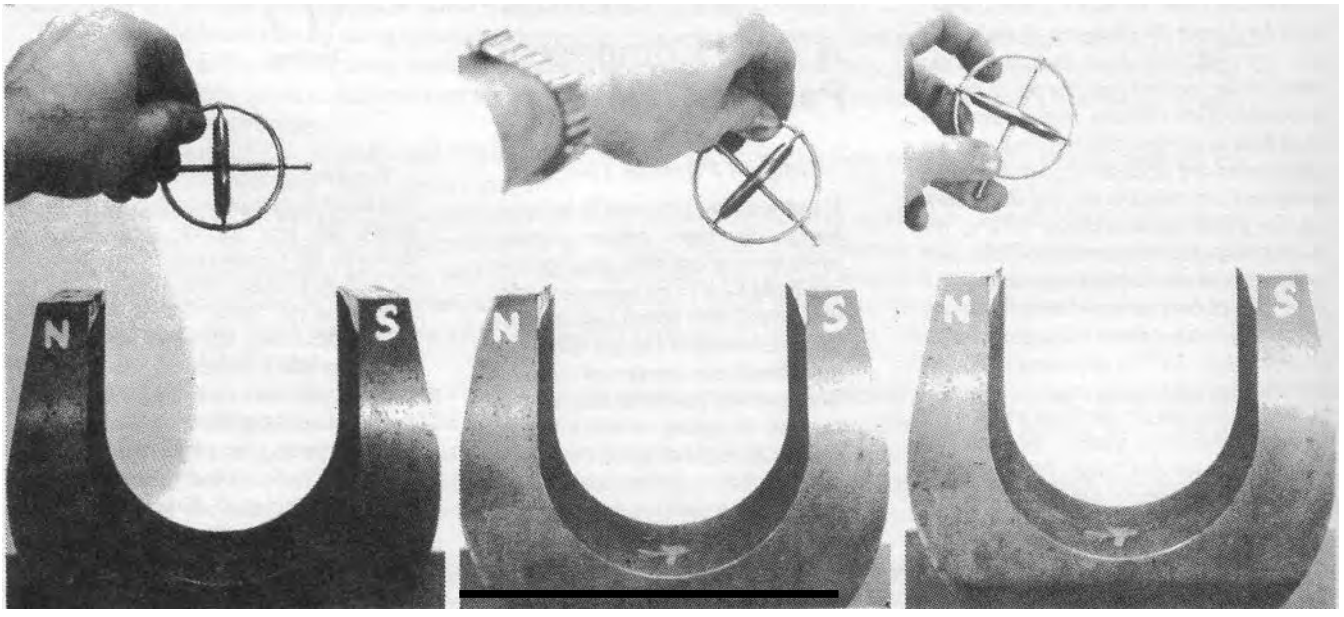
Using multiples of the two energies and adding them together we come near the experimentally determined values.[4] Stable and metastable particles.

All 1/2 integer spin particles have odd numbers of components when summed; even integer spin ones have even numbers of components.

Note that the above scheme works reasonably well in calculating the masses of composite particles irregardless of whether they are leptons, mesons, or baryons.

The masses derived are not exact; there is an error of about 1 MeV out of 500 MeV in some. Binding energies are not uniform; and are unexplained. It is noteworthy that no other scheme comes nearly so close.

Particle	Spin	Mass MeV	n(68.6)	+	n_2(18.53)	Calculated Mass MeV
$\mu^\pm$	1/2	105.66	68.6	+	2(18.53)	105.66
π^0	0	134.96	2(68.6)	+	0	137.2
K^0	0	497.67	4(68.6)	+	12(18.53)	496.96
η^0	0	548.8	8(68.6)	+	0	548.8
$p^\pm$	1/2	938.279	11(68.6)	+	10(18.53)	939.9
Λ^0	1/2	1115.6	16(68.6)	+	18.53	1116.9
Σ^0	1/2	1192.46	16(68.6)	+	5(18.53)	1190.25
Ξ^0	1/2	1314.9	17(68.6)	+	8(18.53)	1314.44
Ω^-	3/2	1672.2	19(68.6)	+	20(18.53)	1674

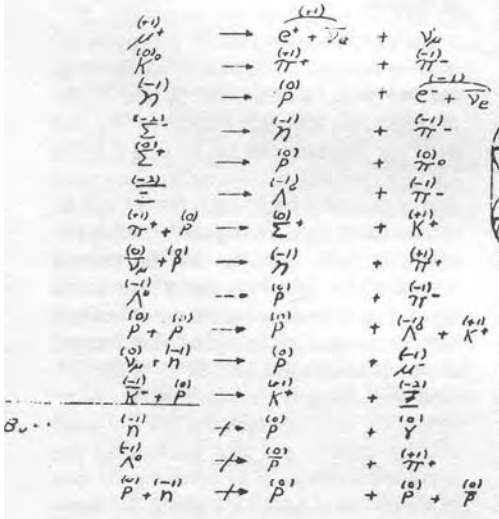


If all particles are composed of these two types of tori then there should be some conserved quantity — akin to the tori — common to all composites (other than charge).[7] Call this quantity 2-toriness (2- -ness); then:

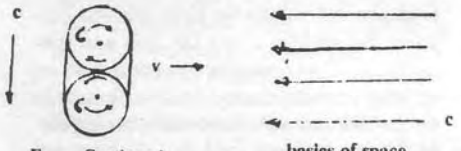
2- -ness) = Q - A, where Q is charge and A the baryon no.

Add algebraically. In *evvery* reaction 2- -ness is conserved. The e+ and its Ve are *together* given a 2- -ness of +; the e-Ve, -1, except in inverse beta-decay, where the electron alone has 2- -ness of -1 (+1).

Examples:



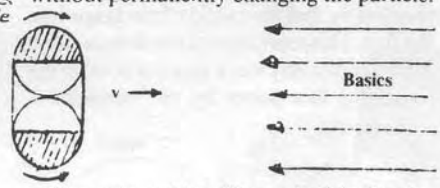
Now, above I said one helicity of the e-, e+ would be preferred. If we section one of these tori and make flow lines



E_L — Sectioned basics of space

in the fire fluid around a *center* we may see why. We assume that the tori can have a maximum velocity relative to the basics of space of 2c (in the same sense that accelerated electrons encounter the 2°7 blackbody radiation at near 2c). But now we must differ, for I assume that not only is this important but that it is all that is important to inertia and mass: As the electron's velocity increases into the basic flux the fluid stuff near outside of torus must meet the basics at an increasingly higher rate than does the fluid near the hole. I am assuming a torus which flies forward face on. So the center of the flow must move ever inward to keep the fluid flowing at c. If enough energy were available (an infinite amount?) this center would reach the "skin" (at which time the torus would lose all mass and likely reverse directions). I assume mass is this movement about the center; the assymetry of the flow as seen in section is a measure of the mass. If the flow center is moved, say 90% of the distance to inside edge, this represents a certain inertia of mass, as when we throw a ball (fast ball!), and until an opposite "force" acts upon the ball — and so changes the center of movement — it will continue on.[5] The mass of, say, a proton at "rest" on the earth is about 938 MeV due to the repression of the flow centers of the three component particles within the proton. Inertia and mass are the same.

Accelerated mass is added on, therefore, without permanently changing the particle.



The tori would prefer one helicity for the reason that, in sectional view the hatched, the outer portion contains a greater volumn. And least action would prefer that the greater and slower flow impact the basics; the lesser flow makes up for this in speed up to near 2c[6].

A final question should be this: do large multiples of these components exist inside the more massive elementary particles as separate entities?

It appears unnecessary in all cases since the repression of the center flow in the *closed* tori -- by accelerating into the basic flux -- and the increase in D, decrease in d, of the *broken* tori is the equivalent of having mass added on, where D and d are the two diameters of a torus as used conventionally. By this the scattering cross section of neutrino interactions should increase as energy goes up, that of the electron, decrease.

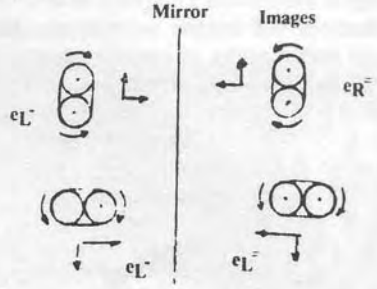
I have said above that one could construct "elementary" particles with only "two" torus-like components, of specified internal spins and flows.

Therein I made statements to effect that one could see the experimentally-confirmed properties of the particles by picturing these as made of the tori components. I mentioned a few.[7],[8],[9]

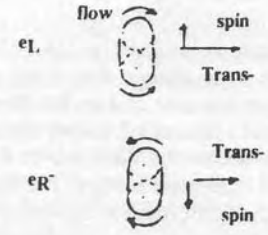
Now I should like to show that parity violation was no violation at all, but a misinterpretation, a confused view. The confusion was partially, at least, caused by one's having pictured the particle's spin as either "pointing forward," right hand, or, "backward," left hand. Arrows pointing opposite to the direction of the particle's linear movement are not only misleading but are one dimensional affairs; whereas, we need arrows showing *movement* in *three* dimensions (arrows pointing with the direction tell little more). It is small wonder that in viewing the beta decay of Co^{60} in terms of the conventional arrows we should ascribe to the mirror an impossible event.[10],[11] Convenient mathematical fictions can cause trouble. In terms of the traced movements and helices of our tori there are not only no "impossible" mirrored events but the events as mirrored are the requisite antiparticles. (When we have no translatory movement we must yet picture spin and flow -- but not helicity.)

Let us use mirrors.

Sectioned Components



Consider the unbroken tori, which I assume are the electrons: If a torus of one flow and spin (with a preferred direction of translation) constitutes an e^- then its mirror view with all the opposed movement, of opposite helicity, is the e^+. The mirror view of the e^- is not still an e^- ("since we can have left and right electrons," as it is usually said), for we must consider flow also. The torus can show left and right helicity, *but* to be an e^- with *left* helicity we must have outside to forward flow,

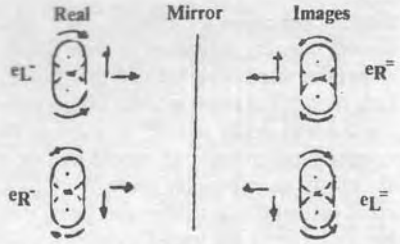


and an e_R^- must show opposite, i.e., inside to forward flow.

The mirror views of these two are the two helices of the e^+. The flow center configuration should prohibit the e^- from remaining right handed. If it is started out from a composite as right handed it should flip immediately, reacting against the basics of space, and conversely, the e^+.

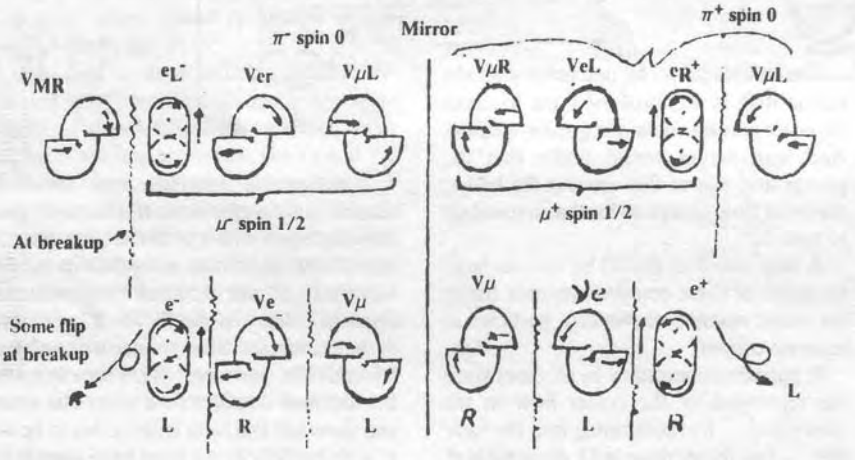
Images of the above

e_L^-, e_R^- become $e_R^=$, $e_L^=$



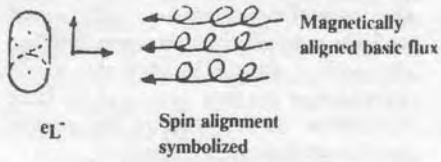
If we show the more complex proton, its mirror-image will likewise be its antiparticle.

Because of the flow — and impingement of basics of space against this flow (maximum relative of 2c) — there is a preferred helicity of the electron. If, therefore the electron is treated with a magnetic field[10, 11] the electrons will assume orientations which will preferentially, at unstable particle decay, fly off in predetermined directions. consider a mirror view of π^- and μ^- decays:



All internal movements are reversed by the mirror; therefore the images are the antiparticles. Since π^- has spin 0 and the μ^- has spin 1/2 we must assume that when the π^- breaks up into a μ^- and an $V\mu$ the e^- flips over from a state of left spin to one of right spin; this allows the $V\mu$ and μ^- to fly apart with the right hand helicity. The flip takes time, slowing the reaction. Nevertheless, except to preserve angular momentum when the need arises, the flow pattern of the e^- should make it left handed.

Finally, if we align a composite particle by using an electro-magnetic "field" (our helically aligned space basics) as Mrs. Wu and associates did with the Co^{60} nucleii[12] we thereby align the composite in a preferential way since the *individual* components are all that offers a resistance to our spin aligned basics, indeed, all that there is to any particle. All should pretty much agree with that. Now, the important thing is this: the magnetic basic flux hitting the components of Co^{60} will tend to cause the outside flow of the unbroken tori (within the Co^{60}) to face into a helically aligned flux "wind" (electromagnetic field) — exactly as when the tori are accelerated. This aligning of the tori (since they do not flip except under special conditions of breakup of composite) is that which aligns the whole:[10]



When these electrons are "shot" out they are shot out so that the outside flow heads into the flux. This repression of the flow center *is* inertia; when any weak spot (or hole) in the impinging flux passes by, the component, the e^-, must shoot out — the steam is up, and throttle is open. The chuck is removed.[13]

What of charge, of the so-called TCP theorem? We have treated it above, already; for when we treat spin, flow, and helicity (through the basics) we have simultaneously treated charge. Charge is the twist given the basics by spin and flow. It is then small wonder that "weak interactions always obey charge-conjugation invariance and parity invariance taken together". They are inseparable. The parity (true parity) determines the charge.[14]

And we treat not just charge-conjugation invariance and space-inversion invariance, or parity, but, at once, time-reversal invariance. For when we allow that any parity experiment must see all internal constituents and their several movements — and without this allowance we are hobbled, have blinders on — we at once see that no experiment, including "thought" experiments, can claim that the principle of time reversal is anything but invalid: we can start at the macro level, using the illustration of a swimmer moving backward in time (a favorite of the time-reversal-*in principle*-crowd). As the swimmer moves forward in time we see, by close scrutiny, that there is a reaction between the water and the swimmer's feet and hands. But in the backwards view — and we must see all — the water molecules rush up aginst the swimmer's hands and feet, stop dead, causing no reaction; instead the swimmer moves back along the path from which the water came. Action-reaction is violated, Newton's third law of motion.

Let's go to the very small: we have a π^+ moving through a magnetic field, the magnet has poles, and marked N and S; the magnetic field is of such a direction, say, that from our vantage point the π^+ curves to the left (a π^- will curve to the right). If we run a film of the event backwards the π^+ will be seen to curve right, an impossible π^+ in our magnetic field. Ah! but let the camera reverse left for right. Now our π^+ curves left again. But perversity has us, for when our camera changed left for right it also changed all the internal spins and flows of the π^+. And this changed particle is a π^-. A π^- should curve to the right, not left. But wait! did our camera not also interchange the north and south poles by reversing the spin of spin-alligned basics traversing the space between poles (despite the now phony fact that the south is imprinted N, the north, S), reversing our field? Indeed. Now we have the π^+ curving left, well enough, but since our magnetic field is reversed, it should now curve right, not left. Therefore time reversal is impossible. When we have allowed ourselves the abilties to see the spin and substructures of all components of a particle we see that we have changed a particle into its antiparticle, we now have a π^- curving correctly in a reversed field, but we have not run the π^+ backward in time. All such experiments with micro (as with macro) constituents fail if we are allowed analytical instruments, e.g., magnets in determining all parameters. Only if we disallow instruments showing charge (the curve), ionization, spin, momentum, etc., may we say: The most elementary particles can travel backwards in time — unfortunately we are hiding behind our ignorance. For when we allow total analysis, showing the known properties of particles, no example of time reversal is seen. Indeed since one can show that time reversal is impossible in the four simple basic particles (by our hypothesis), the electrons and neutrinos, due to its violating one or more of the known laws of nature and

since (in our view, above) all matter is composed of these can we not conclude that time ·versal is disallowed in all more complex ructures by existing laws of nature?[15]

FOOTNOTES

1. Besides the 2°.7 blackbody of Penzias and Wilson and the other known electro-magnetic radiation of space I assume there to be much other. More than 90% of the substance of the world is unaccounted for; it is needed to account for the formation of the gravitational systems. If this missing mass is in the form of photons we should have enough.

2. The elementary particle aspect of the UPT with which this paper is concerned was first conceived in about 1957, excerpts of which were printed in pamphlet form (on three occasions in the early 1960's). New data was added as it became available. I call the overall scheme the unified particle theory, and intend publishing the concept in book form. As far as I can determine the French-Swiss LeSage was the first to propose a particle shadowing effect gravity.

3. Though a filled in cylinder is not apparently a prequisite here, it might give us a clue as to why the Bohr energy orbits contain the numbers: 1, 4, 9 ... 36 (Balmer and other series). If R, r are the lii (in usual sense) of the torus; then in maintaining a constant volumn as r assumes values 1, 1/2, 1/3 ...; R assumes the values 1, 4, 9...

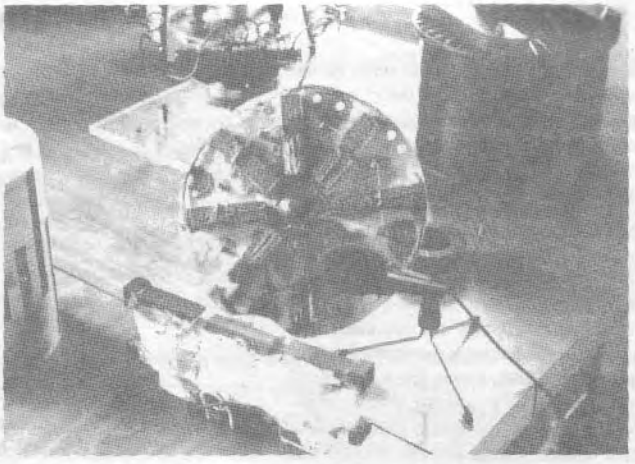
4. I apologize if due credit has not been given anywhere. I have little access to the literature.

5. I assume that both the broken and unbroken tori have the ability to replicate themselves, given enough energy through acceleration. The new material is from the basics of space. But no torus can replicate unless it has basics on both sides (and acceleration sees to this) thereby producing pairs of components of opposite spins and flows — all the intrinsic properties there are (all other properties are seen as caused by these spins, and flows, and, their interactions with basics).

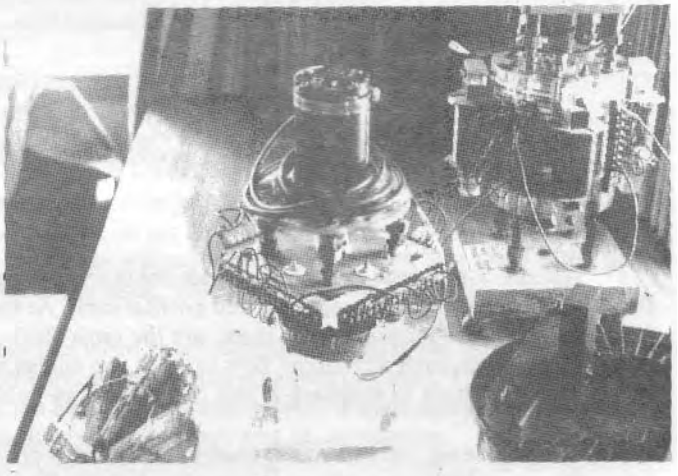
7. The electron charge remains constant due to constant volumn, spin, and flow of the torus.

8. Although the numbers and kinds of particles and resonances are, by this hypothesis, restricted in the lower mass range there are nearly unlimited possibilities at higher and higher masses, given sufficient energy of acceleration and some degree of stability.

9. Since I have made the assumption that nothing exists except the basic photons of space the two tori, broken and unbroken ones, then all "forces" of nature, gravity, weak, electromagnetic, and strong must ensue from these. It is not difficult to envision that tori in proper juxtaposition would be difficult to break apart because of helicity of basics (charge) flowing through the holes of tori whereas at some distance we might have repulsion. Further, certain positionings can be seen as readily breaking apart, i.e., being pushed apart; others only slowly, only after having flipped over — recall, if you will, that we have a preference of helicity for the closed tori; and a permanent helicity for the broken ones. And gravity can be seen as a push shadowing gravity, much like the one LeSage envisioned. The total interactions (weakening) of the basic flux is the important criterion here. We need no "field" — the weakened flux density *is* the field.



Over Unity Motors??



10. In our view an electric "field" is the alignment of spins of basics *caused* by the flow of electrons through the basic stuff of space; a magnetic field is the spin allignment of basics caused by the flow of the basic stuff through electrons (which are alligned and usually "stationary"). In both cases the basics go through the hole of the torus, i.e., when the tori move past the basics we have the electrical, and when the basics move past the tori we have the magnetic one.

11. In the famous parity overthrow experiment suggested by Lee and Yang.

12. See page

13. Radioactivity, its randomness, and tunnelling are naturally explainable by slight inhomogeneities in the basic flux. One should not stop here. Both the high energy production and superluminal velocities of QSO's can be seen as caused by matter (galaxies) having reached near the edge of a bounded, steady — more or less — ball of basic flux. The nearer one comes to the edge the more particles that become unstable. Out of the flux *all* are unstable. Total internal reflection will keep the size of the world constant. At edge of basic flux, matter all across a galaxie, without regard to extent, could simultaneously break up to radiation — hence the "superluminal" velocities.

14. If this view (from the unified particle theory) is correct then the ν, while possibly massless, should not of necessity have a linear velocity of c. By producing short bursts of neutrinos one should be able to time the flight of the bunches. A test. An alternative to this view of the ν, and one which I once considered, was this: It is a mold pattern molded in the basic flux by reactions against that flux by the tori — a pattern molded by kick-back at time of break up of composites, so it would be a dimple in the flux of specified energy and spin angular momentum. At least this

allows it go off at c always. And what of the preferred flow pattern of the tori, the e^-, which I have suggested? If outside flow is away from the flux (instead of into) and consistently used thusly will it not answer? Yes, but both cannot be right. I discount this latter (mold pattern) view.

15. The unified particle theory, if proven true, has, of course, fantastic implications. Much of present day physics will need revision. Several branches (some cosmology, particle physics, relativity, quantum mechanics are out, discarded crutches). Perhaps this is why the many workers to whom, over the years, I have given extracts of the upt have reacted very violently, usually negatively, before they see the whole picture. New ideas out of context always seem ridiculous, violating all that we have been taught. One must try to keep an open mind on the questions this necessarily limited extract will raise. In five years I had finished 225 pages from which most of this extract is taken.

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SYSTEMS TECHNOLOGY: GRAVITY NOTES VI (CEFITS)

Richard LeFors Clark, Ph.D
December 7, 1984

The systems of universal energy flow fields are in three dimensions only (three axes). The three currently recognized field flows are the electric, magnetic, and gravitational. At the neutral centers—mid-polar positions—of each of these fields, are rotated 90 degrees from them, are the cross fields, which are the dielectric, diamagnetic, and diagravitational fields. Thus, each directional flow axis has two energy flow fields. As an example, gravity and the diamagnetic energy flows are both in arbitrary Z axis. All six energy fields are thus coupled in one system.

All of these coaxial pairs of six (6) energy flow systems are modulating oscillations in the three axes, carried by the ether. The ether itself is an extremely tenous and elastic "carrier wave" medium, which oscillates in a frequency and mode of its own.

Due to the dual field impressions carried in each flow axis by the ether, we can and do cause interference radial shifts in these axial flow systems. As an example, increasing the local diamagnetic field does decrease the local gravity field. This is, in fact, what Schauberger was doing in his hydrodynamic systems.

As Albert Roy Davis has proved many times, any diamagnetic material placed midway between attracting magnetic poles loses gravitational weight. This happens only at the neutral center, mid-point between the attracting poles, which is the exact location of the diamagnetic field. Thus, as the magnitude of the diamagnetic field increases, the magnitude (and effect) of the gravity field decreases. You can easily verify these statements with any diamagnetic sample suspended from a spring scale and two powerful permanent magnets in the spaced, attracting position. Try it!

The elctrical field is coaxial with the diagravity field and explains T. T. Brown's capacitor units. A large D.C. power supply, two spaced metal plates (a capacitor) and any good dielectric sample suspended from a spring scale will demonstrate this phase of the system.

The fourth parameter is not time; it is oscillatory motion! Time is only an arbitrary interval in any sequence of events and not a dimension of existence (So much for "space-time" theories). The universe is composed of information in various forms of oscillations as to frequency, direction and mode. Our human assignment of arbitrary names to matter, energy, etc. forms or aspects of the universal information content is rather egocentric and foolish.

The technology involved is to transfer useful gains between these fields by purposeful interference. Small causes for big effects exists in the Clark Energy Field Interference Transfer Systems (CEFITS). It is going with the tide of universal design instead of against it as we presently do.

NOTE: The universe is infinite and unbounded and not the "Divine Smoke-ring" of Eddington's torus equation. Euclid was right about parallel lines. Mathematics is a synthetic language and should not be mistaken for reality. It can be an artificial tool or toy, but never is it real.

RICHARD CLARK

BACKGROUND DATA

Wilhelm Reich (1897-1957) Austria

Wilhelm Reich was a psychoanalyst of the Austrian school who studied under Freud, and later became a teacher and investigator of natural scientific phenomena.

As his career developed, he began to study the interaction of space energy to human health and to formulate the various reactions of these key relationships. He was able to identify a form of energy which he named "Orgone" and build devices wich could collect and accumulate this energy.

Orgone energy is the name given him to a specific life energy within and around all living organisms. The existance of orgone energy outside of the living organism in the atmosphere was demonstrated in various test conducted by Reich. The inner life energy is stimulated from the outer orgone energy in the atmosphere. This concept is logical, since nothing can exist within the living organism that did not previously exist in the environment of the living organism.

The color blue is the specific color of orgone energy within and without the organism. Blue is the color seen in all functions which are related to the cosmic or atmospheric orgone energy. Protoplasm of any kind in every cell or bacterium is blue, and cells lose their blueness when they die. Orgone energy penetrates everything at different speeds.

Wilhelm Reich's orgone energy accumulators were in the form of squarish boxes which consisted of alternate layers of organic and metallic materials, such as cotton or cellulose and aluminum. Reich's continuing experiments in this field disclosed that organic materials attract and collect orgone energy from the atmosphere. The metallic material acts to both repel and contain the orgone, and thus the combination of both materials produces an ideal collector or accumulator of orgone energy.

An extraordinary occurance within the orgone accumulator box is the unexplained temperature rise that occurs which cannot be explained by the present Laws of Energy Conservation.

Reich further discovered a motorizing force (high or low potential) within orgone energy (1949) which could be harnessed to propel a special type of motor. He is said to have built a special motor with a rotating armature revolved by entrapped orgone energy, but there is no record available to validate this device.

According to Reich's findings, the so-called "heat waves" that we see shimmering above roads and mountains are not actually heat at all, but orgone energy that does not rise. They will move from west to east, at a speed faster than the earth's rotation. They cause the twinkling of the stars in our sight. Thunderstorms are formed by changes in the concentration of atmospheric orgone energy.

Wilhelm Reich began to get into trouble with the authorities when he attempted to translate the benefits of orgone energy into medical applications, and specifically orgonetic irradiation of the organism (patient). The Wilhelm Reich Foundation was formed for the purpose of promoting the healing effects of applied orgone energy, but started to draw the attention of the F.D.A., who were very skeptical of orgone energy and its application.

While some of Reich's teachings and methods may have been open to question as more information has evolved, the basics of orgone energy have been accepted by most non-establishment scientists who are free-energy activists.

Wilhelm Reich was eventually arrested and placed in jail where he remained until his death.

Karl Von Reichenbach (1820-1865)

Karl Von Reichenbach was a student of the teachings of Goethe in Germany and was gifted with a high degree of creativity which brought significant changes and improvements in several technological areas.

In later years he was a widely recognized scientist and industrialist who began to specialize in "life energy" which surrounded plants and all living organisms.

As he began to investigate and record data on this living energy, he determined that it was given off by both in-organic as well as organic substances. He discovered that some "adept" people displayed a sensitivity to the detection and effect of this life energy, and employed such people to record the nature and properties of the life energy.

His work differed with that of Wilhelm Reich in this regard, since Reich explored natural phenomena without the direct assistance of human "adepts". It was discovered that the energy was emitted from electromagnetic action so that it could be closely investigated, defined and recorded. Von Reichenbach was actively engaged in life energy research within the period from 1822 to 1850, and made many discoveries such as paraffin, creosote, dyes and other similar industrial components.

Von Reichenbach's various discoveries were published in a series of publications entitled "Research on Magnetism, Electricity, Heat and Light, In Their Relation to Vital Power" (May 1845).

A record of Reich's research and his biography are provided in the book: "Letters on OD and Magnetism", by F.D. O'Byrne, available from Health Research, P.O. Box 70, Mokelumne Hill, Calif., 95245.

The people who were sensitive or "adepts" who assisted Von Reichenbach in his research efforts were sensitive to changes in etheric energies. The energy termed odic, odyle, odylic or od was detected by these people from the actions of crystals, chemical processes, solar and moon energies, and from magnets.

BACKGROUND DA TA

Rudolf Steiner (1861-1925)

As a young man Rudolf Steiner observed the fundamental truths of nature with a mental facility far beyond that of the traditionally trained scientists of his time.

His mind was tuned to the supersensitive world, just as was Tesla's, Reich's, Von Reichenbach's and some others of his time.

He developed an early understanding of the field forces which form around growing plants and support their flowering, levitation and overall vitality. Steiner became a careful invetigator of the natural world and became one of the eminent German and Austrian scholars who worked for years in the collection of the Goethe papers.

In 1923 he published a book: "Knowledge of Higher Worlds and Its Attainment", which outlines how men may learn the ability to perceive the supersensitive, or invisible world, which he was gifted with being able to do. As an accomplished clairvoyant, Steiner was able to foretell and warn us of the fundamental errors in our present social directions.

Steiner had the fortunate faculty of beginning life endowed with ability to move voluntary with intuitive clairvoyance into the supersensitive world.

Through his studies he came to realize that most of the world religions and in particular the Hibernians, Jesuits, Rosecrucians, Masons, Yogas, Hindu, Muslim and other religious groups essentially all seek the way of raising the consciousness to the perception of higher worlds!

Jerry Gallimore, Indianapolis, Indiana Active Researcher

Jerry Gallimore, like most of us in the free energy movement, believes that the known energy forms, including etheric energy are real and have been lost to society in our headlong rush to develop expedient, non-renewable energy forms.

He believes that present day science has discarded all of these unusual energy forms as being unworthy of investigation. In his various books J.G. has proven that this position is erronous and has demonstrated that the various unusual energy sources are both valid and promising for future application.

Jerry Gallimore has been active in the free energy, gravity and natural phenomena fields and has authored several extensive publications relevant to developments in these fields, which are:

a) Transverse Paraphysics
b) Unified Field Theory
c) Collected Properties and Writings of J.G. Gallimore
d) Handbook of Unusual Energies

These above books can be purchased from: CADAKE Industries, P.O. Box 1866, Clayton, Georgia, 30525

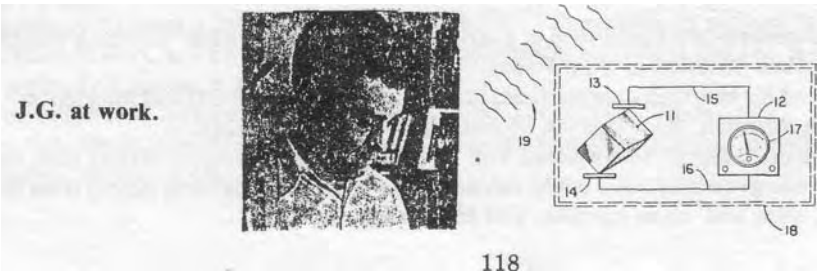
His books describe the pioneering energy work of Wilhelm Reich, Karl Von Reichenbach, J.W. Keeley, and others in this field.

In the second volume of the Handbook of Unusual Energies J.G. says": "There is a definite connection between the four beat of Russell, the four beat of Reich, and the four energies of alchemy and others. We can get free energy out of the atmosphere!" (Tesla's free energy, Reich's "orgone" energy, and Von Reichenbach's "odic" force are all related!).

J.G. is active in gravity and the gravity measurement area as shown by his "Field Measuring Device" patent, as follows:

Abstract of the Disclosure:

"A field measuring device including a stationary crystal of diaelectric material having a crystalline lattice structure, a source of D.C. voltage potential and an ohmmeter. The source of direct current is coupled across opposite ends of the stationary crystal and the ohmmeter detects stress changes in the crystal which are induced by the presence of a magnetic field. The stationary crystal of dielectric material may be a solid state electrical component such as a diode and a single meter, such as a multimeter may be used to provide both the source of direct current as well as the measurement means for detecting stress changes.



BACKGROUND DA TA

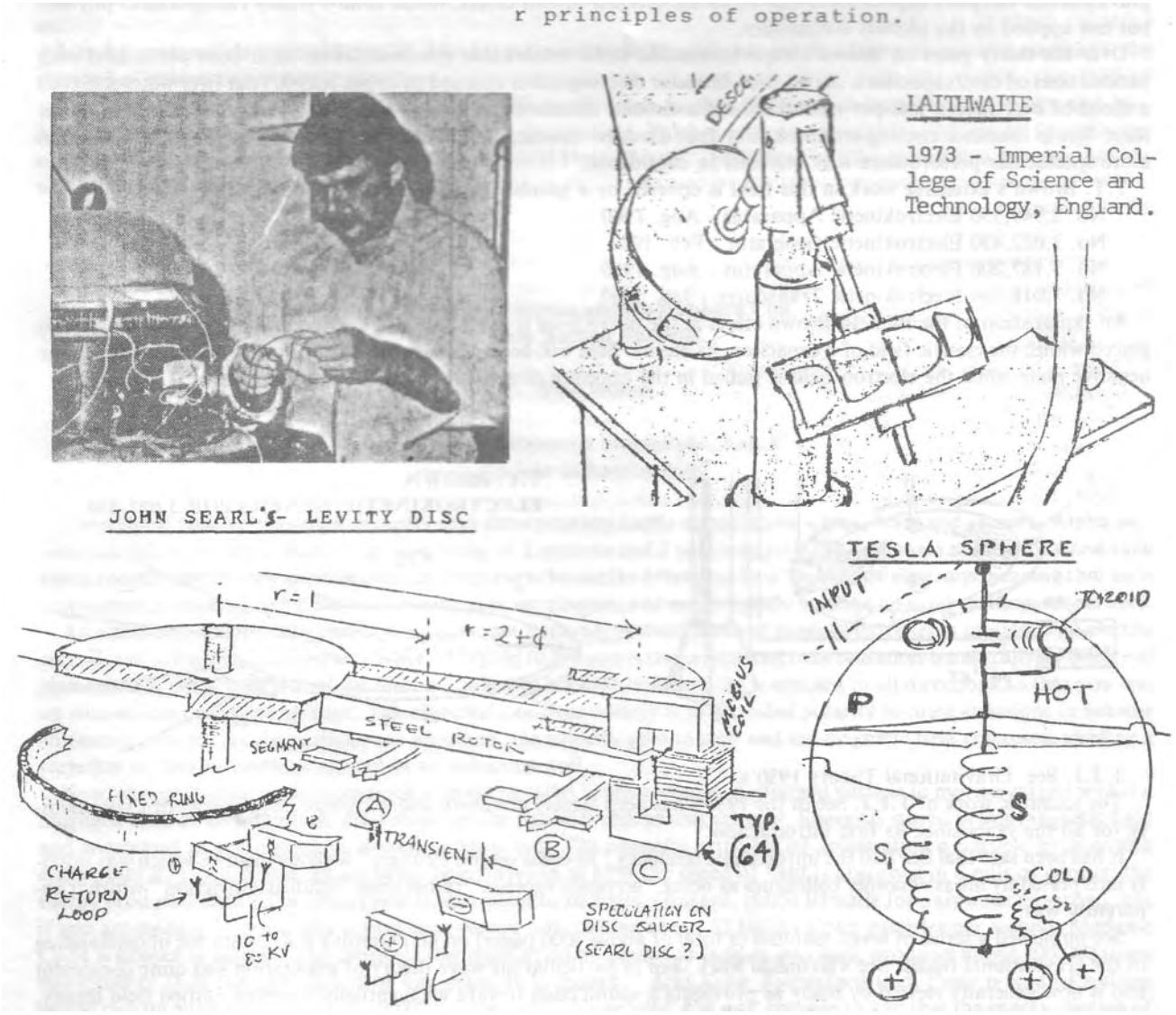
John Bigelow (1976) Indianapolis, Indiana

John Bigelow's major contribution to the "free-energy" cause is represented by this folio/book: "EARTH ENERGY, the entrancing force with a thousand names", published by Health Research, P.O. Box 70, Mokelumne Hills, California, 95245.

The main value in Mr. Bigelow's book is that he has managed to cover practically all of the free-energy researchers work in a clear and concise manner. In addition to the concise explanations for each of the various energy projects, the accompanying sketches/illustrations provide a quick understanding of the phenomena involved in each one.

He covers the project work of Laithwaite, T.T. Brown, John Searl, Dr. Moray, Lester Hendershot, Tesla, Keely and most of the other known energy researchers.

Mr. Bigelow has been able to cut through most of the mystery surrounding many of these devices and phenomena and provide us with the basic understanding OH their principles of operation.



BACKGROUND DATA

T. T. BROWN ElectroGravitic Research

The anti-gravity research of Thomas Townsand Brown started with his curosity about X-Rays and his belief that they may be used for space travel.

He discovered that an X-Ray tube unit which he had acquired exhibited a tendency to move when energized, which apparently had not been noticed by anyone before his discovery. He reasoned that this actual motion was the reaction to a polarization effect within the X-Ray unit caused by the high voltage electrical input, and he proceeded to expand his research in this special effect area.

He designed and built a unit which he called the "Gravitor", named because of its demonstrated weight loss or gain depending on its axis position. The "Gravitor" was essentially a multi-plate capacitor of unusually large plate surface area dimensions. When placed on a scale with fifty KVDC applied to the unit, it either gained or lost a small percentage of its weight depending on whether the positive or negative side of the unit was upward.

It was established by T.T. Brown that when charged with a high voltage the twin plate capacitor of relatively large surface area would be physically moved or elevated in the direction of the positive electrode.

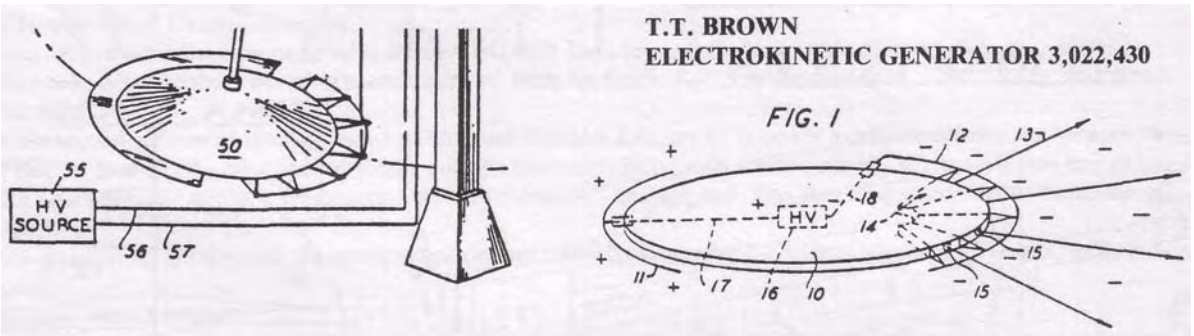
Since T.T. Brown received considerable support from Dr. Paul A. Biefield during his experimentation, this anti-gravity effect for plate capacitors is known as the Biefield-Brown effect, which is now widely recognized in physics, but not applied by the physics community.

Over the thirty years of Brown's experimentation some remarkable demonstrations have been performed with various sizes of disc/capacitors. A two foot diameter disc/capacitor charged to about fifty KV, at fifty watts achieved a speed of over fifteen feet-per-second around a circular course. In some later tests, larger disc/capacitors of about three feet in diameter circling around a fifty foot diameter course, and charged to one hundred fifty KV resulted in more spectacular performance that was held in confidence.

T.T. Brown's extensive work in this field is covered by a number of issued U.S. patents, as follows:

No. 2,949,550 Electrokinetic Apparatus - Aug. 1960
No. 3,022,430 Electrokinetic Generator - Feb. 1962
No. 3,187,206 Electrokinetic Apparatus - Aug. 1960
No. 3,018,394 Electrokinetic Transducer - Jan. 1962

An explanation of the Biefield-Brown effect at the micro level is provided by the observation that when an atom is placed within the electric field of a capacitor, its atomic field will become distorted, the nucleus is pulled in toward the negative plate while the electron field is pulled in the opposite direction toward the positive plate.



T.J.J. See Gravitational Theory 1930's

The scientific work of T.J.J. See of the 1930's has been largely unknown and/or ignored by the scientific community for all the years since its first introduction.

It has been said that See had the unfortunate tendency "to come on too strongly" with his theories which was usually interpreted by his astronomer colleagues as being "arrogant egotism" rather than "studied conviction" which it apparently was.

See published a series of seven manuals (a total of about 4000 pages) on his extensive R & D into the understanding of the gravitational riddle. See's technical work, and in particular his wave theory of gravitation was quite competent and is now generally viewed by many as providing a sound basis toward an eventually accepted unified field theory.

The basis for See's wave theory is that Pi () is an infinite oscillating series leading to an expanded theory of curvilinear motion. The oscillationg series correspond to dynamic impulses, ie: physical waves in the ether, as postulated by Huyghens and Newton for the curvilinear motions of the stars observed in the immensity of space.

According to See, gravitational, magnetic and electrostatic fields are presented as longitudinal/compression waves in the ether, of widely divergent wave lengths. These various wave forms are of proportionate magnitude to the distances over which they operate.

See's anti-gravity theory explains how a rotating body effects gravity, as was vividly demonstrated by John Searl, and Otis Carr in their anti-gravity experiments. According to this theory, when a symmetrical metallic body is rotated at a critical speed, the surrounding ether is set in motion which produces an ether vacuum, which prevents the transmission of gravitational forces to the rotating body.

The well-known psychic, Edgar Cayce identified T. J. J. See "as a scientist with a sound theory to the solution to the riddle of gravitation".

Dr. William J. Hooper (1930-1971)

The questioning of Dr. Hooper of our present electromagnetic field theory lead him to his multi-electric field theory which was aimed at a refined, combined electromagnetic plus gravitational field presentation. Dr. Hooper's theory, like that of T.J.J. See's theory above, has not received the attention that it deserves.

Specifically, Dr. Hooper found that there are three electric fields with their own distinct characteristics which are: 1) the electrostatic field 2) the transformer electric field, which is produced by a changing magnetic field intensity, and 3) the motionally induced electric field (Faraday's induction).

Dr. hooper first found that the "motional" electric field was incapable of being shielded during early tests, and later tests showed that while it is possible to partially shield this field, it is both impractical and very inefficient to do so.

It is the motional electric field that Dr. Hooper believed might be related to gravity due to its essential inability to be shielded as related to terrestrial gravity.

Two U.S. patents have been issued for Dr. Hooper's work in this field, which are: No. 3,656,013 and No. 3,610,971, which cover the theory of the motional electric field. Further information on his work can be found in the manual: "New Horizons in Electric and Gravitational Field Theory", published by Electrodymanic Gravity, Inc. 34 w. Tallmadge Avenue, Akron, Ohio, 44310.

The Moray Device and the Hubbard Coil were Nuclear Batteries

Paul Brown

Collected Research Mongraphs, Vol. 1
Cadake Industries, 1987

The natural radioactive decay elements emit three primary forms of radiation; alpha, beta, and gamma. Alpha particles are helium nuclei or heliumions consisting of 2 protons and 2 neutrons giving them a mass number of 4 and each alpha particle carries two positive charges. Beta particles on the other hand are high speed electrons meaning that each beta carries a single negative charge. Gamma rays are photons and consequently we have no need to discuss them here.

An alpha or a beta particle in motion constitutes a current element. Several charged particles in motion is an electric current and is measured in amps. What I am trying to tell you is that alpha and beta radiation is naturally an electrical phenomenon only these radiations have no polarity. Natural radioactivity is emitted in all directions so that you end up with no net current or voltage. The object of a nuclear battery is to provided polarity to these emissions to achieve an electric current. As the particles are absorbed, the velocity goes to zero and the magnetic field collapses, yielding a variation of flux to produce an emf in an induction coil.

Now, the amount of power contained in these particles is phenomenal. A charged particle in motion carries with it a magnetic field of an magnitude determined by the particles charge and velocity. Energy is stored in this magnetic field and is released as the particle is slowed or absorbed. The opposite principle of accelerating a particle by pumping energy into it. For instance, an alpha particle traveling at 67% the speed of light is absorbed in 6 mils of copper; the energy produced during this absorption is equivalent to 10 watts. Granted, this is 10 watts for only a micro second, but if you are using a 1 curie alpha source then we are now talking about 37 billion alpha particles per second. Madame Curie is quoted as saying "The complete transformation of a gram of radium into lead, produces about 100,000 times more energy than the combustion of one gram of hydrogen." And Ernst Rutherford said, "one pound of radium would radiate energy at the rate of 10,000 horsepower." Hopefully, it is now obvious to you that the energy content of radium is enormous. Now, I must point out that the use of radium is common to both of the devices in our discussion.

Lets look at conventional nuclear batteries and see how they convert alpha and beta decay into electricity. But first, I should tell you about how exposure to these radiations alters the dynamics an any electric circuit. A conductor exposed to these radiations has its resistance reduced and its conductivity increased while dielectrics become partial conductors and their conductivity is not described by Ohm's Law. These characteristics have been known by the scientific

community since 1903. In addition to that, in 1916 it was shown that by using a weak solution of radium in conjunction with radio aerials near the antenna or tuning coil greatly increased the receptivity of the radio, even in circumstances where no stations could be received before. Most of these phenomena are explained by looking to the atomic scale to see what happens as a particle is absorbed. For an alpha particle being absorbed in copper, the panicle is traveling at a high rate of speed and has a large amount of kinetic energy which is transferred to the electrons of the copper by collision. The alpha produces some 86,000 ions before being absorbed. These ions are then free electrons in the conductor in addition to those normally present. This process is called the Multiplication Factor of the cell. That is because for every incident beta particle you get say 20,000 electrons.

Conventional nuclear batteries are composed of cells of several types. For now, we will concern ourselves with only the basic four. The commonly known beta cell as first demonstrated by Mosely in 1913, was a beta source sitting on a feedthrough insulator at the center of an evacuated conductive sphere. As a beta particle leaves the source, it gives the source a net positive charge and as this beta particle is absorbed by the sphere it contributes a negative charge to this electrode. Further charges increase the difference in potential and current may be drawn from this to a load in the usual manner. An alpha source may be susbstituted by the principle remains the same. This is the beta or alpha voltaic effect and batteries of this type have been built as large as 2,000 watts that could fit into the palm of your hand.

The contact potential difference cell or a class 2 nuclear battery: Simply put, this is a conventional battery composed of a stack of plates composed of materials with different work functions only no electrolyte is used. Instead, we immerse the plates in a radioactive gas. The life of all nuclear batteries is proportional to the half-life of the source material used. For radium, the half-life is 1,600 years. The advantage of this type of cell over the beta cell, is its multiplication factor. One high energy beta particle ionizes many gas molecules before it is finally stopped. Each of these new charged particles is effective in placing a charge on the electrodes. Cells of this class commonly have multiplication factors of about 200.

The third type is the class 3 P-N junction cell. By simply exposing a p-n junction transistor to alpha or beta bombardment, the transistor produces power to drive a load. Cells of this type have multiplication factors in the realm of 200,000 times.

And finally, the thermojunction type or radioisotope thermoelectric generator commonly called the RTG. This is the most dependable and the least efficient type of cell. Radioactive source materials are hotter than their surroundings due to self absorption of particles. By simply placing a thermocouple in the vicinity of this heat source, the energy is converted into electricity. Cells of this type operate at only about 20% efficiency but Voyager is equipped with an RTG.

I believe the simplest type of nuclear battery is the class B type. Simply put, the device is.a radioactive wire. Using a conventional battery and load utilizing a radioactive wire to complete the circuit. As current is drawn from the battery, it is amplified so that the full load current is not drawn from the battery. If you wind a transformer utilizing radioactive wire, the transformer acts as a current amplifier. This patent is closely related to the Hubbard coil. The McElrath patent; a cold cathode vacuum tube nuclear battery. This application was filed in 1931. I believe if Moray ever filed for patent, he must have had a conflict with this patent.

An LCR oscillation is the electrical counterpart of a swinging pendulum. If you could eliminate the wind resistance and the friction in the pivot, then the pendulum would swing or oscillate forever, in response to an impulse. At resonance, if it were not for the ohmic resistance of the circuit, then the LCR oscillation would continue forever. By experiment we have found the 8 series transformer arrangement of Hubbards's to yield a low damping design. This transformer in series with a capacitor and a means for absorbing nuclear decay (the fuel cell), forms an LCR tank circuit. Normally, such a circuit would yield a damped oscillation in response to an electrical impulse. However, the fuel cell contributes energy to the osciallation through every cycle as current is carried through the wire. The result is a current build up in the tank which must be removed and this is accomplished by impedance matching a transformer to the circuit. That is to say, the LCR oscillation does not damp out due to the energy contributed by the fuel cell. Simply put, this is the secret of the Hubbard Coil. It is an LC resonant tank oscillation at its own self resonant frequency with energy in excess of that required to maintain the oscillation, available to be removed from the tank by an impedance matched transformer. Lets compare this to the statements made by Hubbard himself. From the Seattle Post Intelligencer we read, "the current is pulsating...its life as a power unit is indefinite..it is made up of a group of eight electromagnets, each with a primary and secondary winding of copper wire, which are arranged around a large steel core...the core likewise has a single winding.. .about the entire group of coils is a secondary winding.. .a coil thus constructed is lifeless until given an initial impulse...an initial impulse is given by connecting the ends of its windings for a fraction of a second to an ordinary house lighting circuit...the manner of this momentary charging constitutes the principle secret...a device for extracting electrical energy from radium. All of these statements tend to support my theory of operation.

In summation then, the Hubbard Coil is a low damping power transformer utilizing the primary winding in an LC tank circuit oscillating at its self resonant frequency. The transformer secondary is impedance matched to the primary oscillations to yield output power. Oscillations in the primary tank are started by placing a pulse across the secondary. The oscillating primary tank circuit absorbs energy of radioactive decay from radium.

Now we will take a look at the Moray Device. It is a simple amplifier driven by an RF signal and containing the Moray Valve. Actually this is a transformer coupled, class-A amplifier in which the power consuming load is coupled to the plate circuit through an impedance matched transformer. The Moray Valve itself which from his notes we know used a compression alloy including radium chloride. I am going to describe the Moray device as a high frequency LC resonant circuit in multiple stages utilizing a novel (radium doped) detector and novel oscillator tubes also containing radioactive material. Lets compare the Moray circuit to the McElrath circuit, which is a cold cathode, vacuum tube amplifier driven by an RF signal to produce usable power. These tubes of McElrath's used radium on the emitter. In Moray's early device, he used an antenna and a ground. RF signals are impressed upon the LCR tank circuit to yield high frequency oscillations and the circuit was tuned to resonance for maximum current in the tank. Energy from radiated particles is contributed to the circuit by absorption in the detector which also has a high multiplication factor due to the cascade of electrons produced within the germanium of the detector. The circuit dumps this excess energy into a second stage oscillator to go through the same process and so on through multiple stages. Later design improvements eliminated the antenna and ground connections but required an input emf to initiate the oscillations in the first stage. The Moray device utilizes many principles characterized by conventional nuclear batteries of the class 1, 2, 3 and class 5 types.

By comparison, we see that the principle for operation of the Hubbard Coil is the same as the Moray device employs only utilizing a different technique, namely, both use an oscillating primary LC tank circuit at its self resonant frequency with radioactive decay energy contributed by particle absorption within the primary circuit and electrical energy is removed from the LC tank by means of an impedance matched transformer.

In conclusion, we now see a plausible explanation for two so called FREE ENERGY devices. This approach yields an explanation for their claimed performance within the context of contemporary science without invoking such borderland concepts as the aether or zero point energy. Proper application of this technology could be of tremendous value to all of humanity.